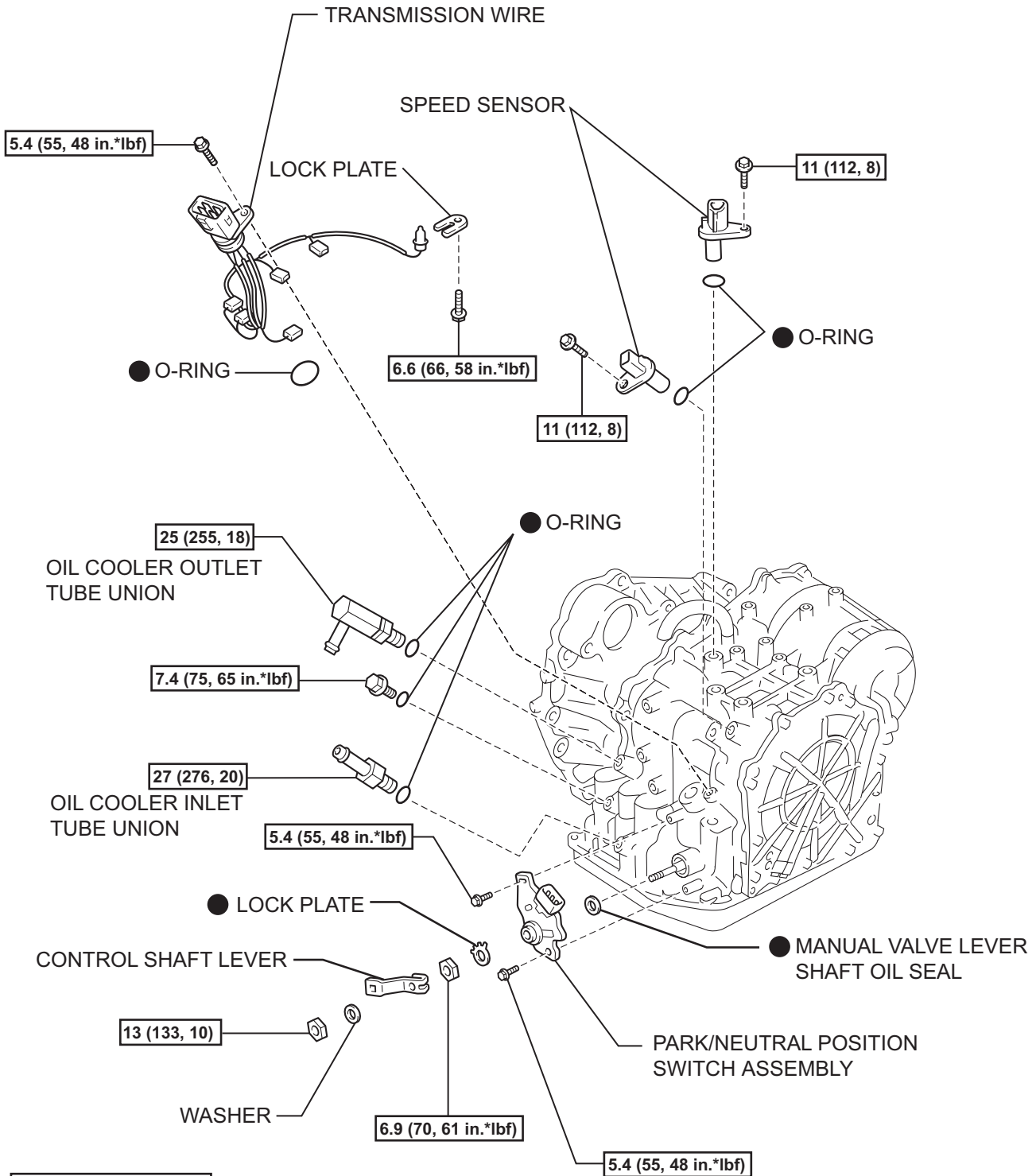


AUTOMATIC TRANSAXLE UNIT

COMPONENTS

AX



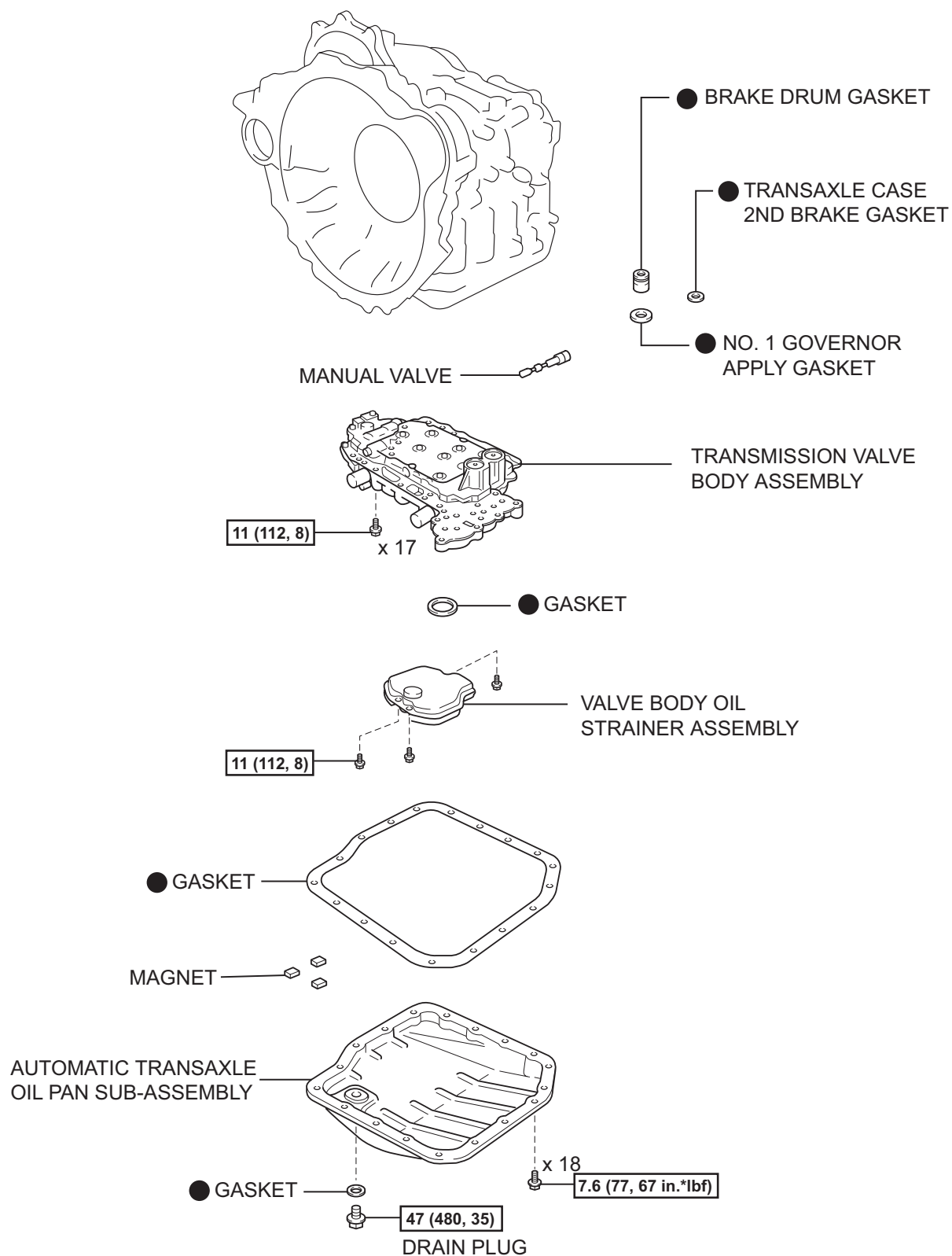
N*m (kgf*cm, ft.*lbf) : Specified torque

● Non-reusable part

N

C127430E03

AX

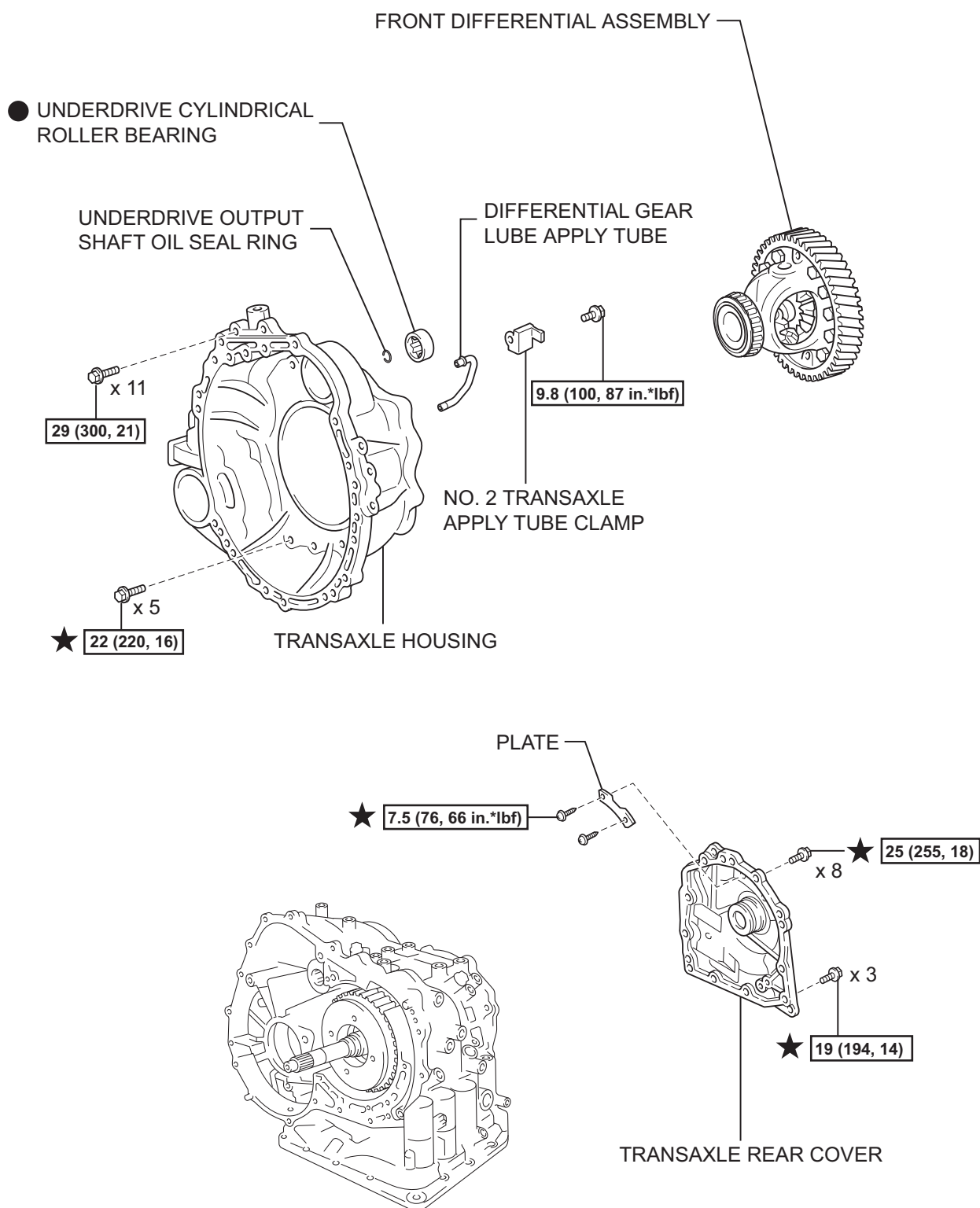


N*m (kgf*cm, ft.*lbf) : Specified torque

● Non-reusable part



AX

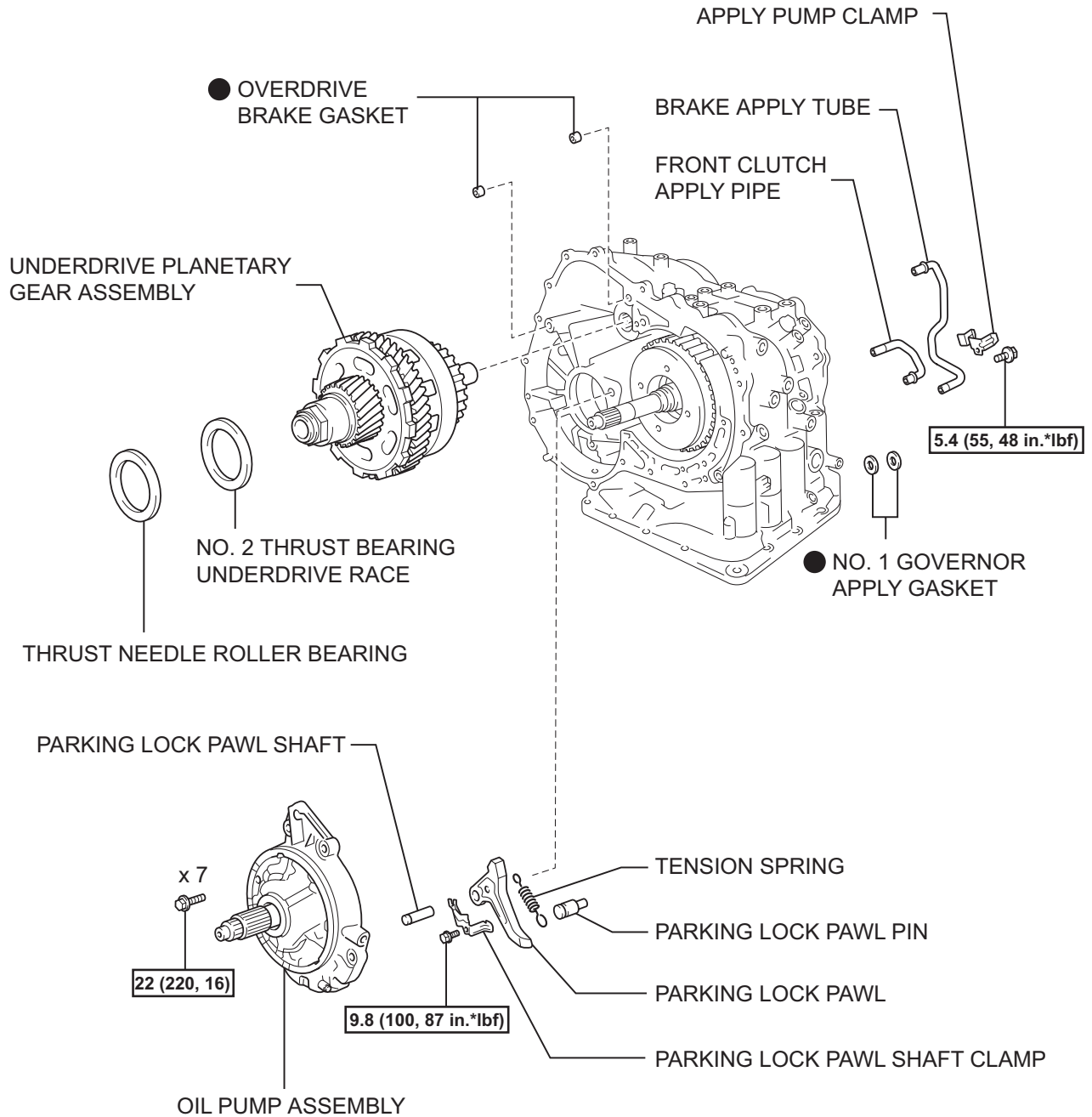


N*m (kgf*cm, ft.*lbf) : Specified torque

● Non-reusable part

★ Precoated part

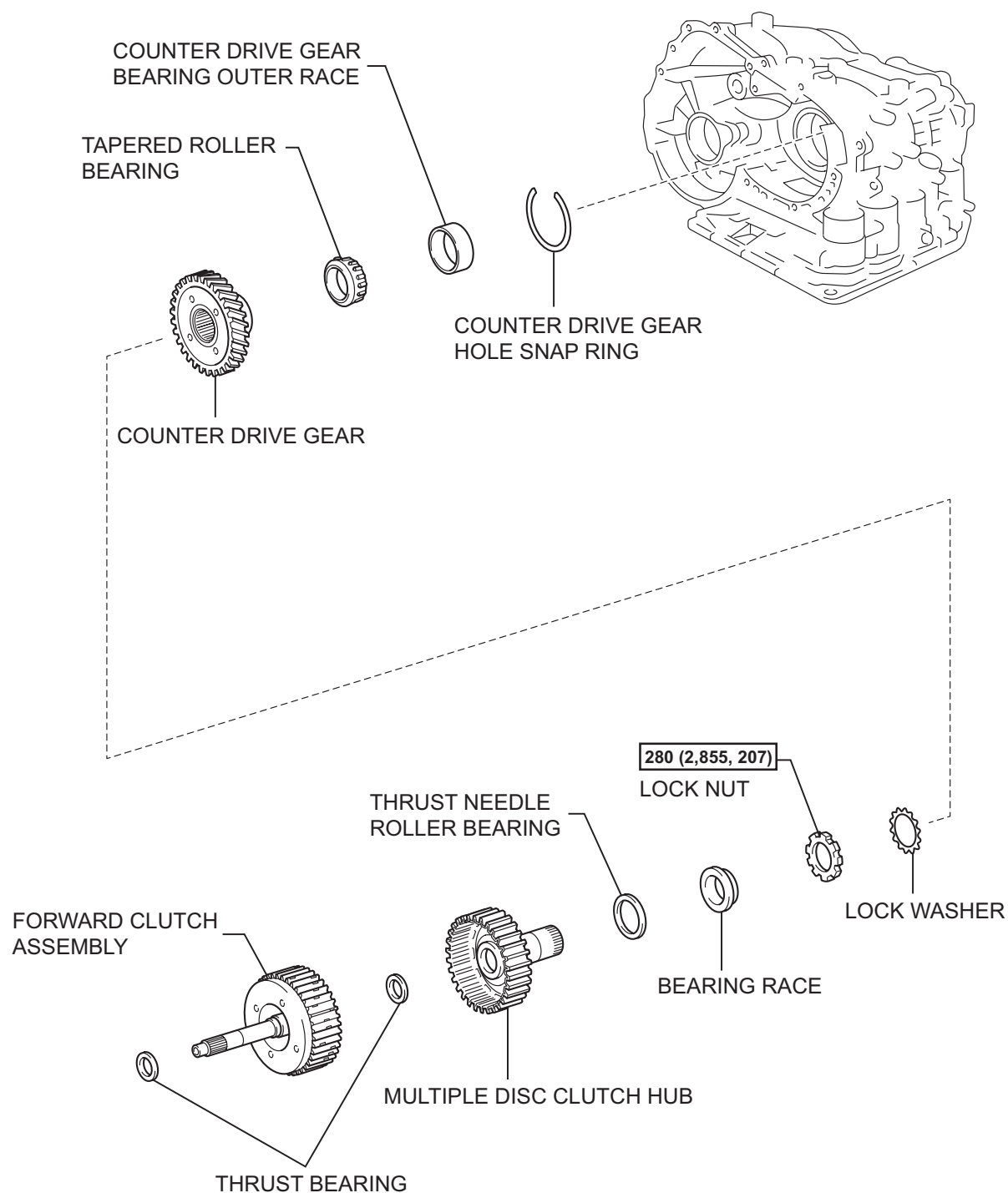
AX



N*m (kgf*cm, ft.*lbf) : Specified torque

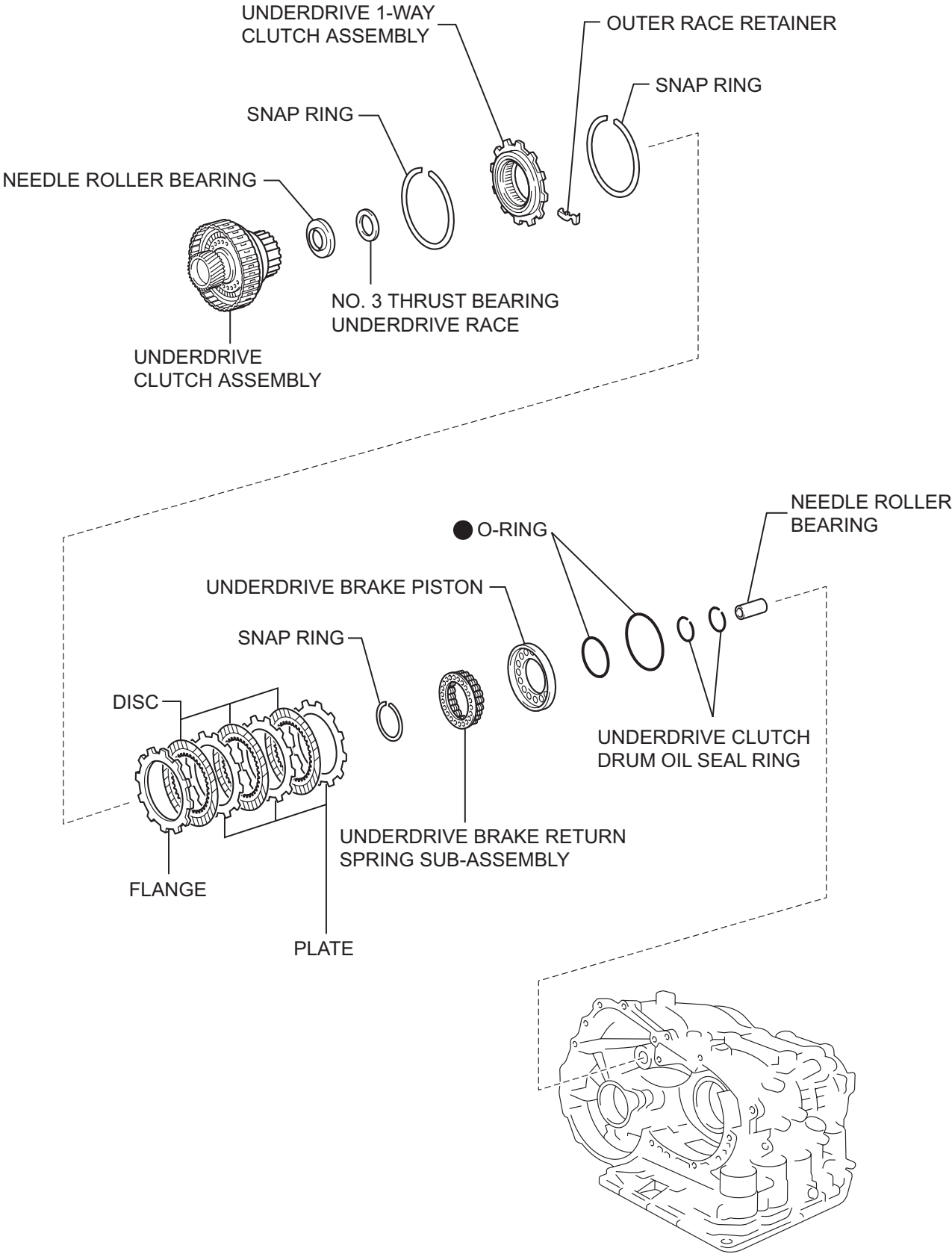
● Non-reusable part

AX



N*m (kgf*cm, ft.*lbf) : Specified torque

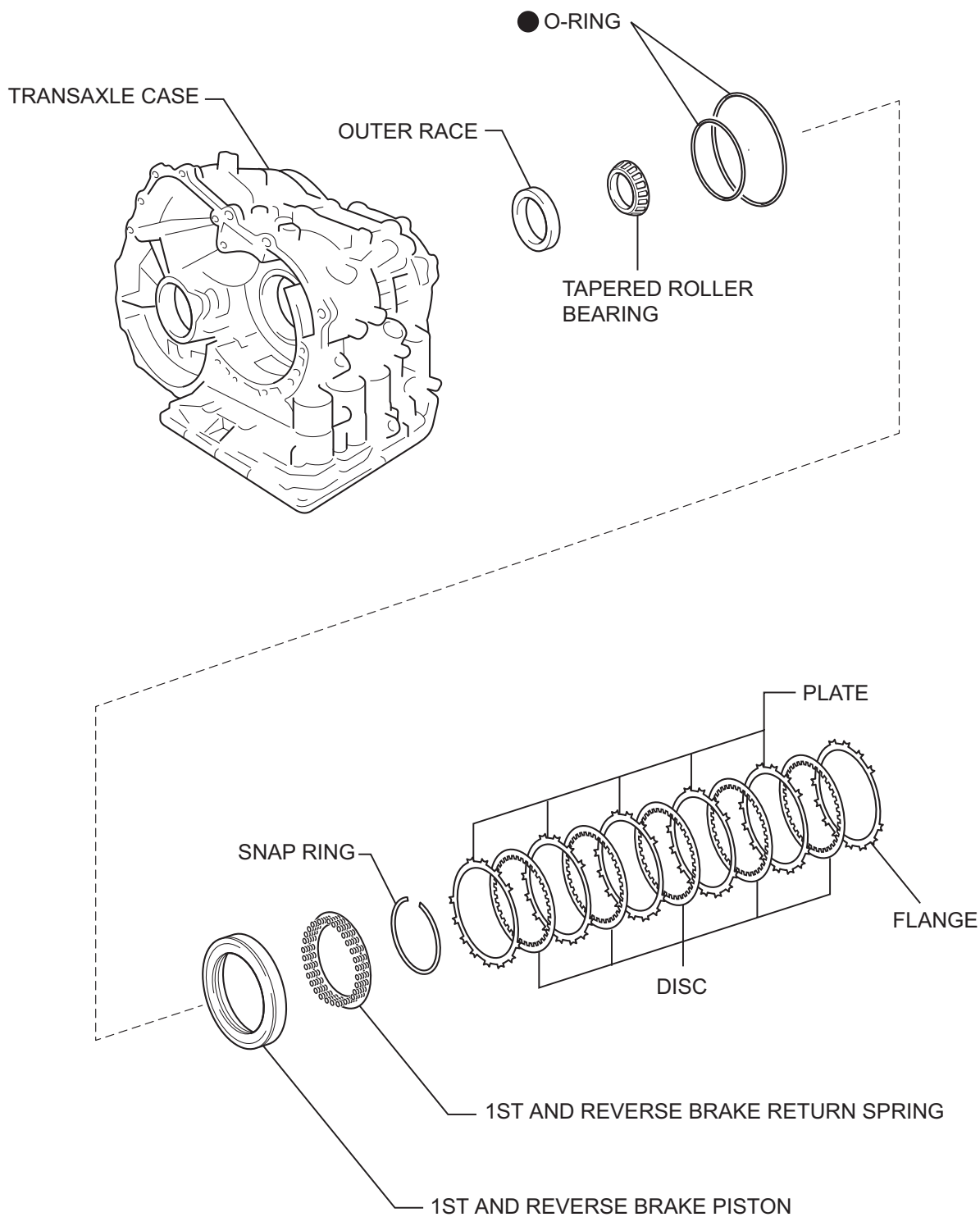
AX



● Non-reusable part

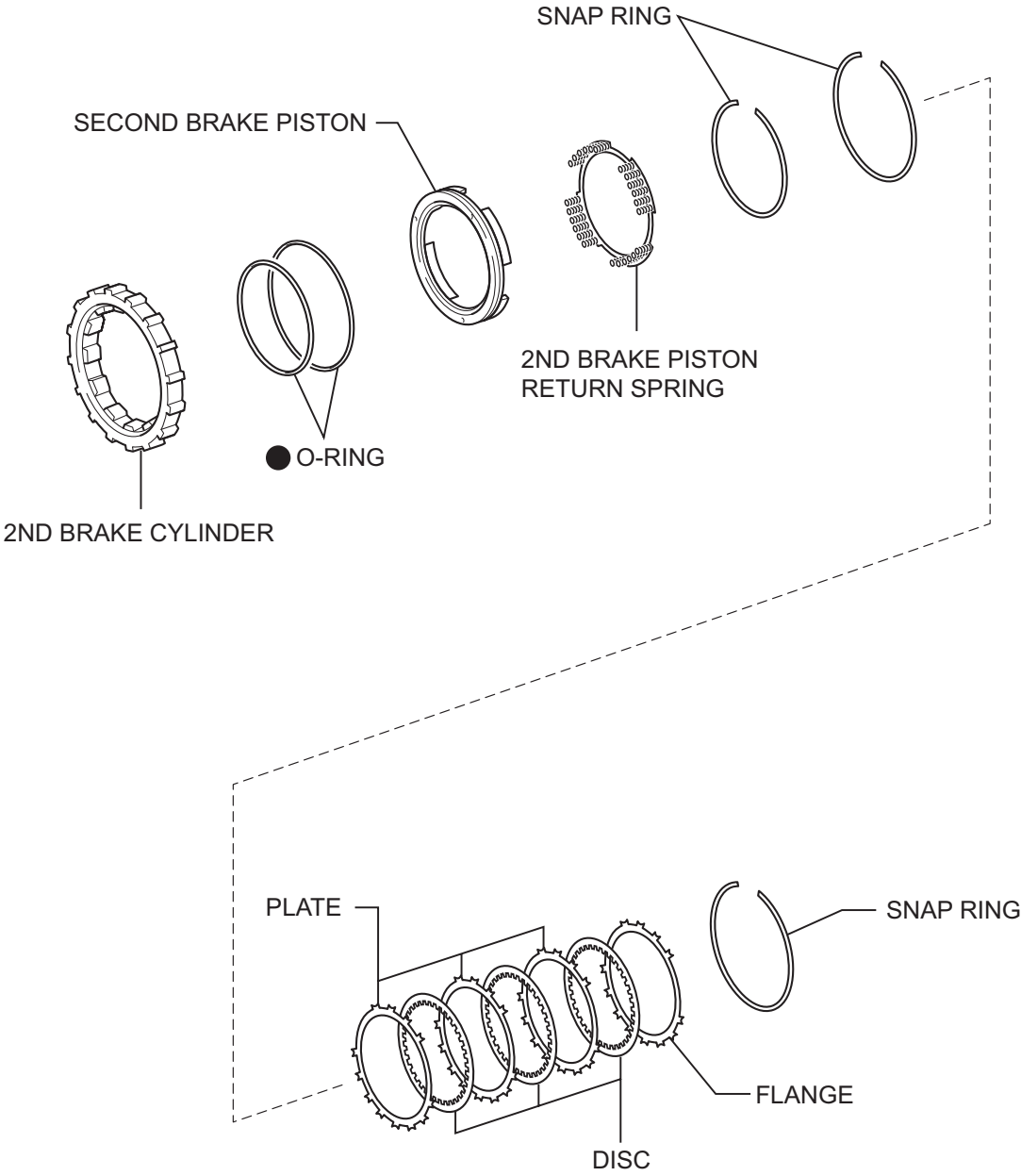
N

AX



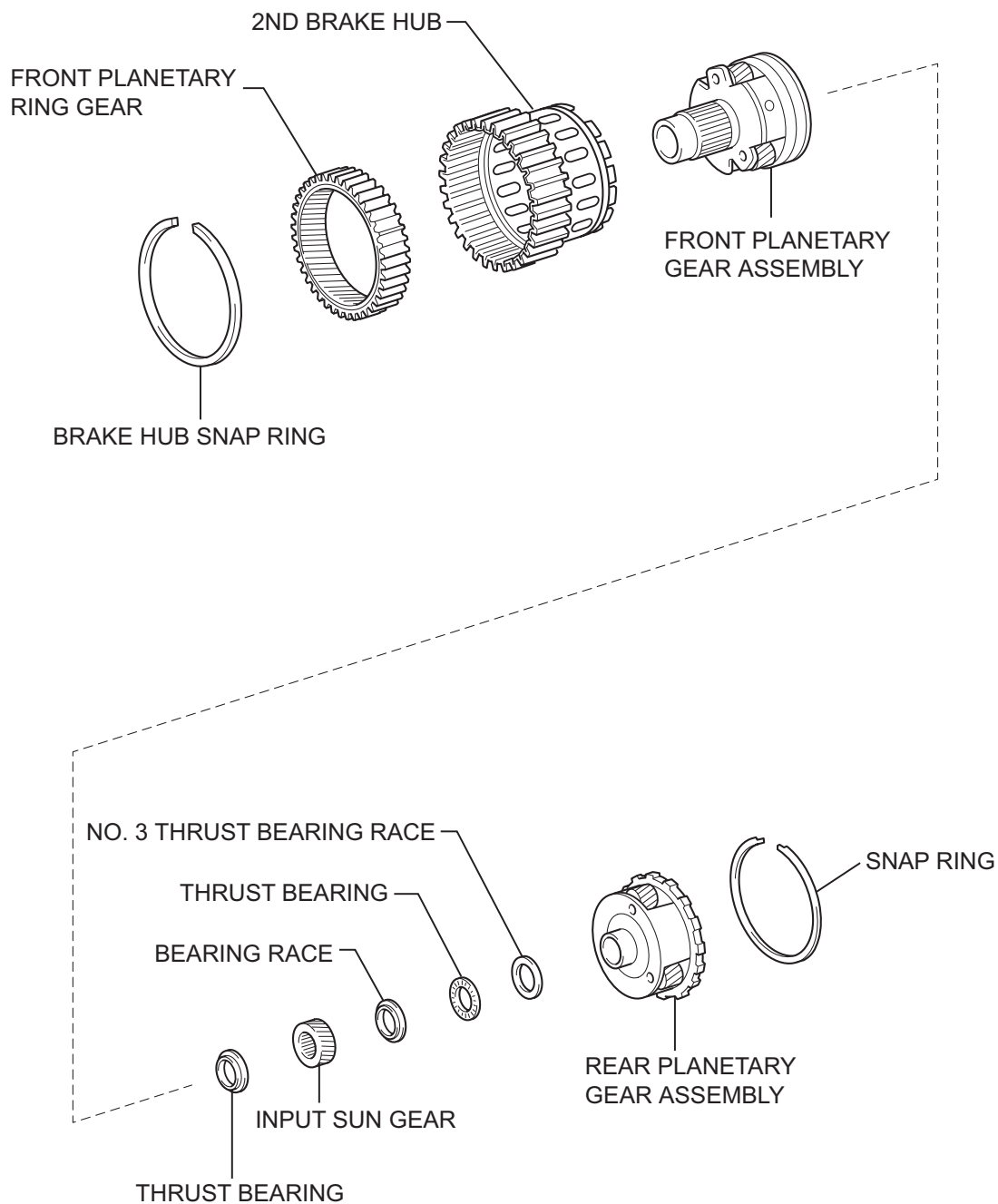
● Non-reusable part

AX

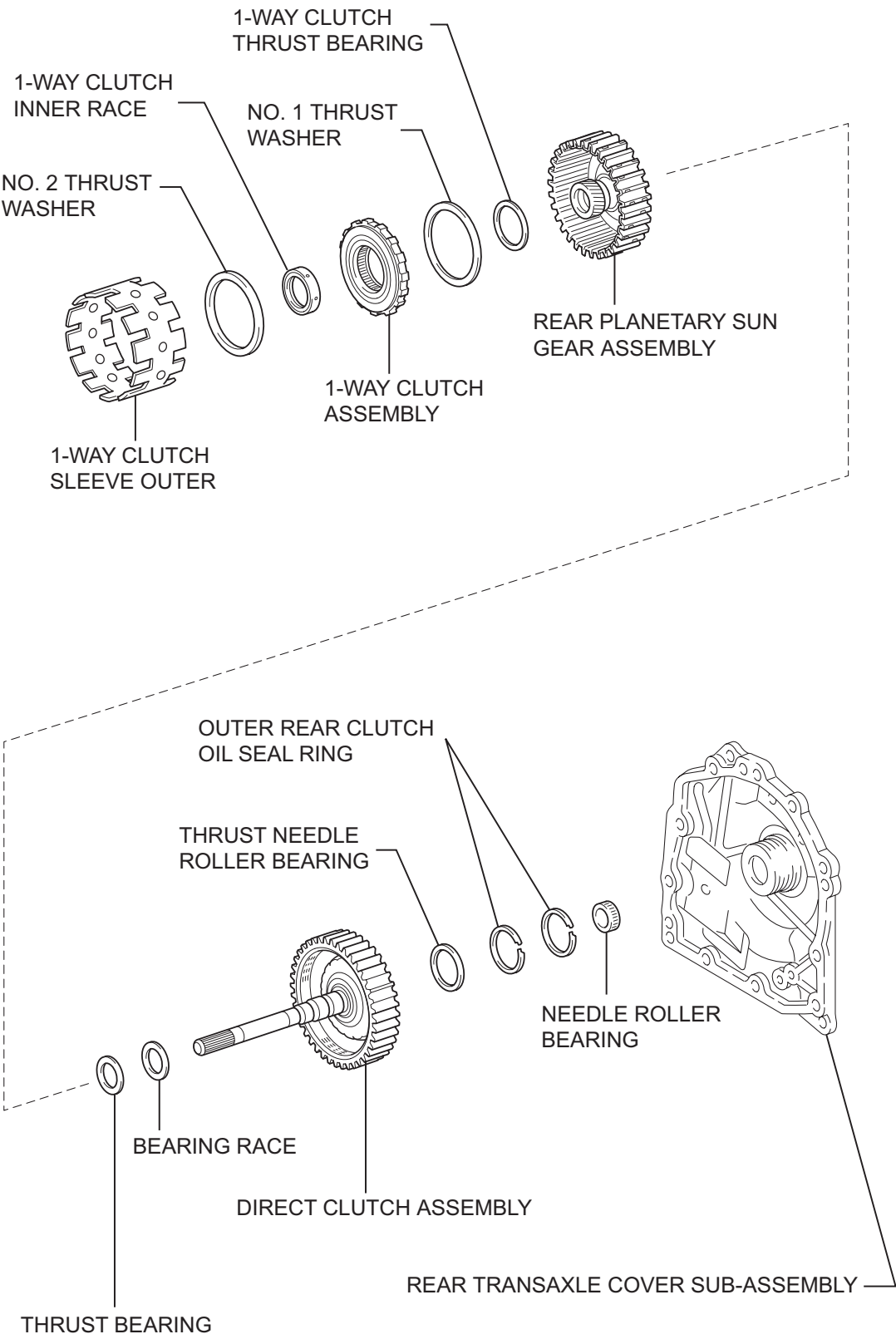


● Non-reusable part

N



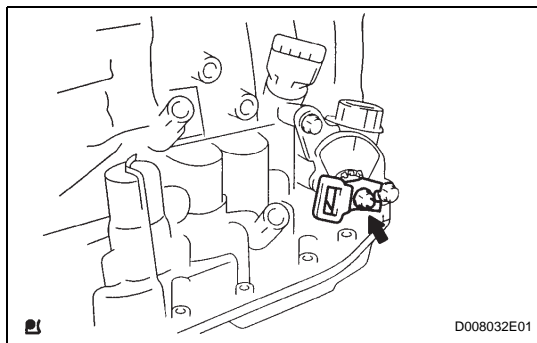
AX



DISASSEMBLY

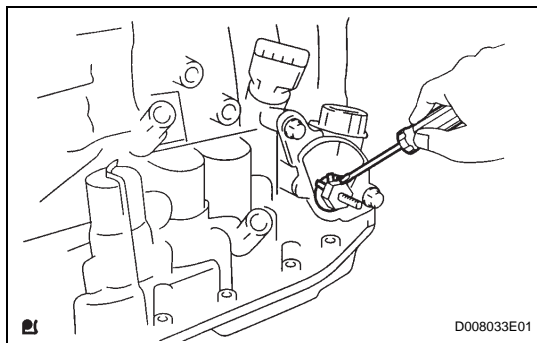
1. REMOVE SPEEDOMETER DRIVEN HOLE COVER SUB-ASSEMBLY

- (a) Remove the bolt and hole cover from the transaxle.
- (b) Remove the O-ring from the hole cover.

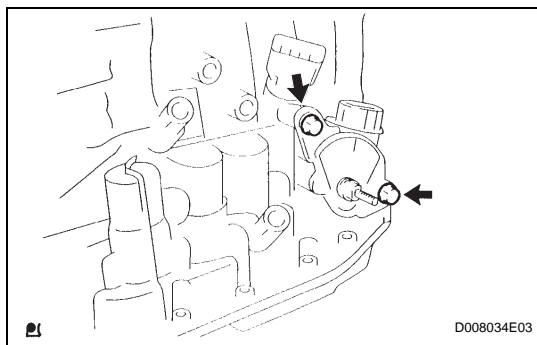


2. REMOVE PARK/NEUTRAL POSITION SWITCH ASSEMBLY

- (a) Remove the nut, washer and control shaft lever.



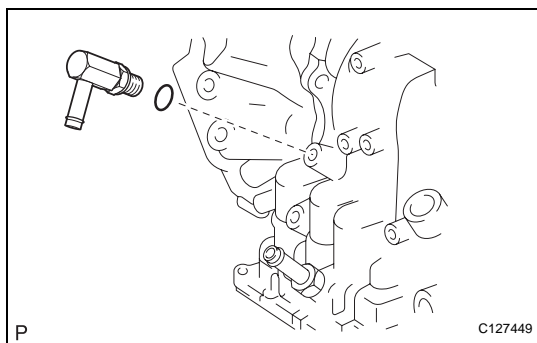
- (b) Using a screwdriver, unstake the lock plate and remove the lock nut and lock plate.



- (c) Remove the 2 bolts and pull out the park/neutral position switch.

3. REMOVE BREATHER PLUG HOSE

- (a) Remove the breather plug hose from the breather plug.

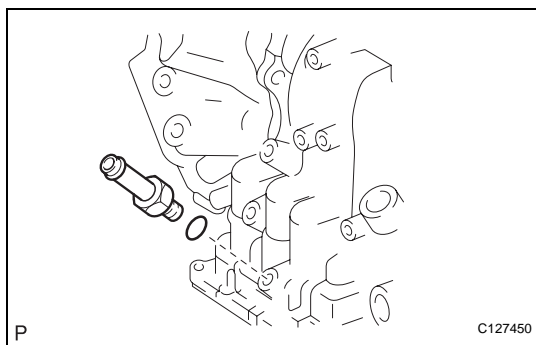


4. REMOVE OIL COOLER OUTLET TUBE UNION

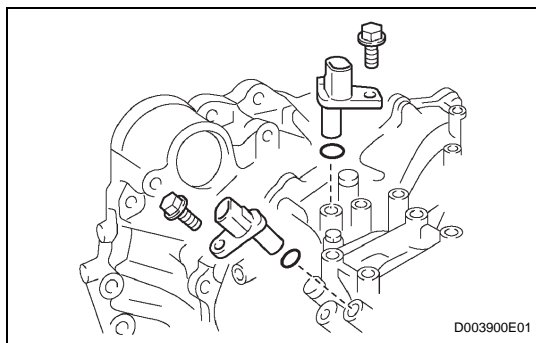
- (a) Remove the union.
- (b) Remove the O-ring from the union.

AX

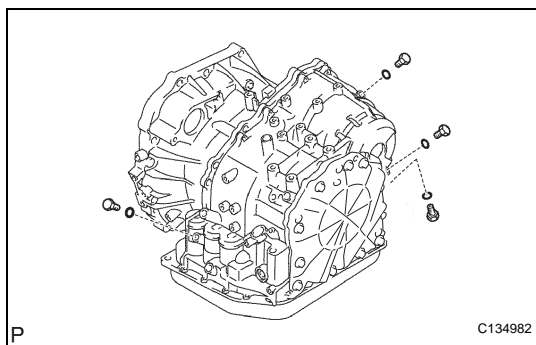
AX

**5. REMOVE OIL COOLER INLET TUBE UNION**

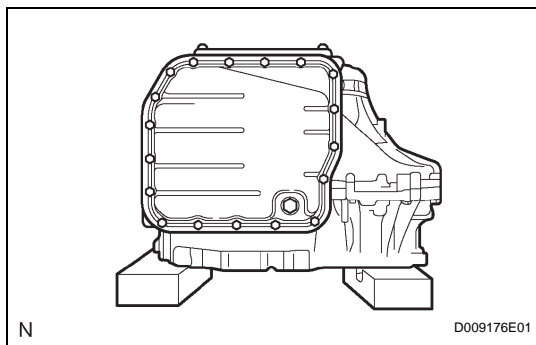
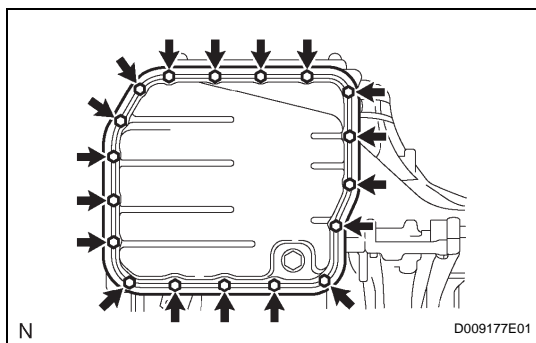
- (a) Remove the union.
- (b) Remove the O-ring from the union.

**6. REMOVE SPEED SENSOR**

- (a) Remove the 2 bolts and 2 speed sensors from the transaxle.
- (b) Remove the 2 O-rings from the sensors.

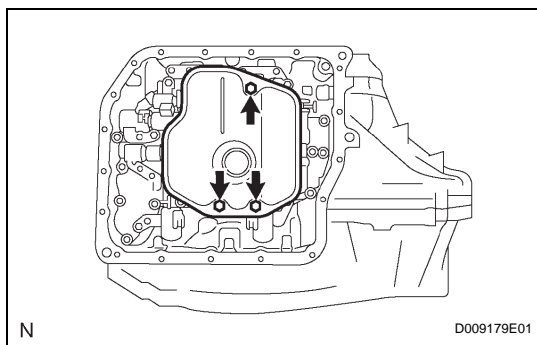
**7. REMOVE NO. 1 TRANSAXLE CASE PLUG**

- (a) Remove the 4 plugs from the transaxle.
- (b) Remove the 4 O-rings from the 4 plugs.

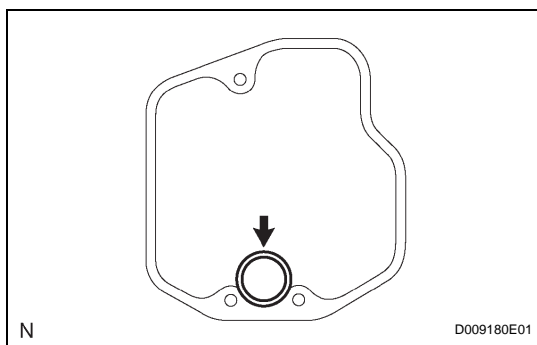
**8. FIX AUTOMATIC TRANSAXLE ASSEMBLY****9. REMOVE AUTOMATIC TRANSAXLE OIL PAN SUB-ASSEMBLY**

- (a) Remove the 18 bolts.
- (b) Remove the oil pan and 3 magnets.
- (c) Remove the gasket from the oil pan.

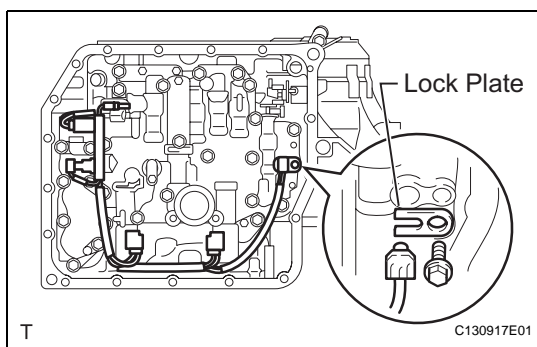
10. INSPECT AUTOMATIC TRANSAXLE OIL PAN SUB-ASSEMBLY (See page [AX-185](#))

**11. REMOVE VALVE BODY OIL STRAINER ASSEMBLY**

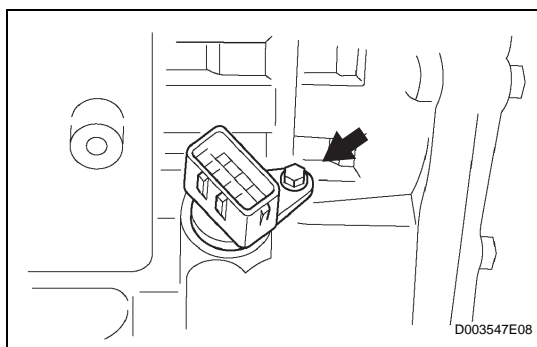
- (a) Remove the 3 bolts and oil strainer.



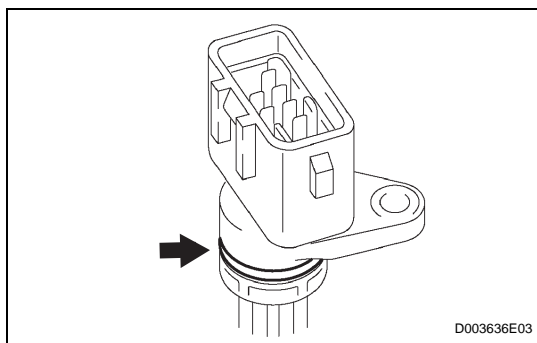
- (b) Remove the O-ring from the oil strainer.

**12. REMOVE TRANSMISSION WIRE**

- (a) Remove the 5 connectors from the shift solenoid valves.
- (b) Remove the bolt, clamp and ATF temperature sensor.

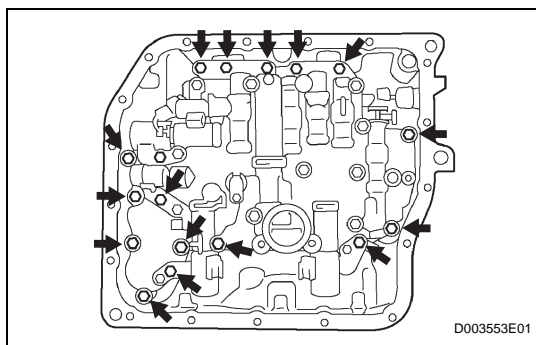


- (c) Remove the bolt and transaxle solenoid wire from the transaxle.

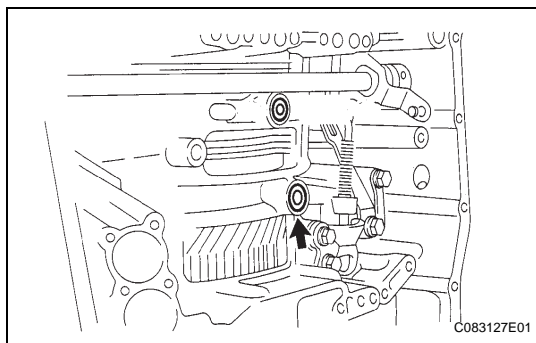


- (d) Remove the O-ring from the transaxle solenoid wire.

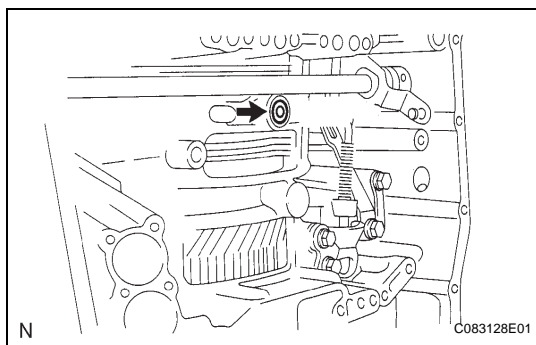
AX

**13. REMOVE TRANSMISSION VALVE BODY ASSEMBLY**

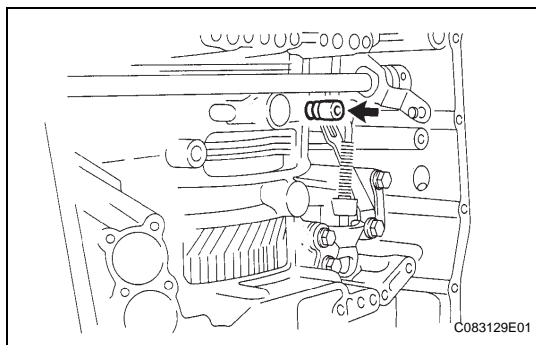
- (a) Support the valve body assembly and remove the 17 bolts and the valve body assembly.

**14. REMOVE NO. 1 GOVERNOR APPLY GASKET**

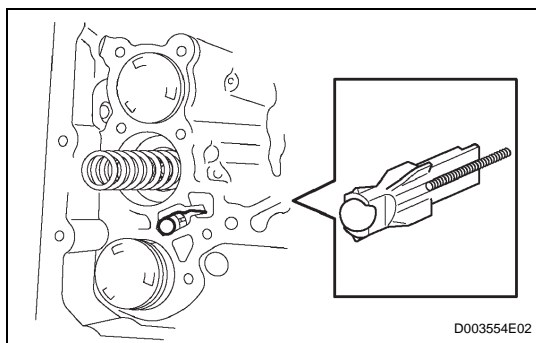
- (a) Remove the governor apply gasket from the transaxle.

**15. REMOVE TRANSAXLE CASE 2ND BRAKE GASKET**

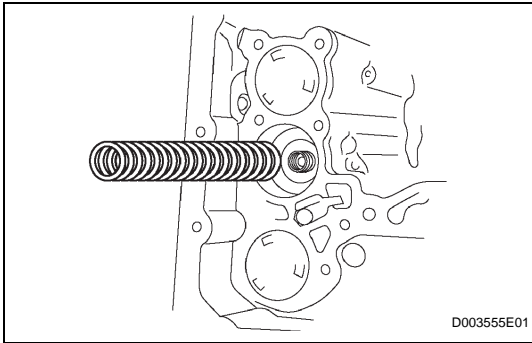
- (a) Remove the 2nd brake gasket from the transaxle.

**16. REMOVE BRAKE DRUM GASKET**

- (a) Remove the brake drum gasket from the transaxle.

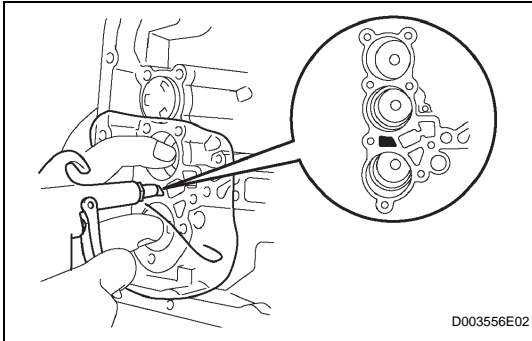
**17. REMOVE CHECK BALL BODY**

- (a) Remove the check ball body and spring from the transaxle.



18. REMOVE C-3 ACCUMULATOR PISTON

- (a) Remove the compression spring from the C-3 accumulator piston.

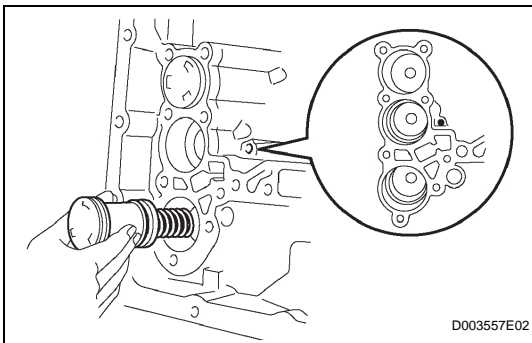
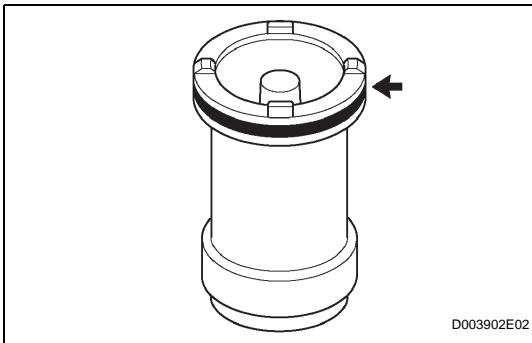


- (b) Apply compressed air (392 kPa, 4.0 kgf/cm², 57 psi) to the oil hole and remove the C-3 accumulator piston.

NOTICE:

- Applying compressed air may cause the piston to jump out. When removing the piston, hold it with your hand using a waste cloth.
- Make sure not to spatter ATF when applying compressed air.

- (c) Remove the O-ring from the C-3 accumulator piston.



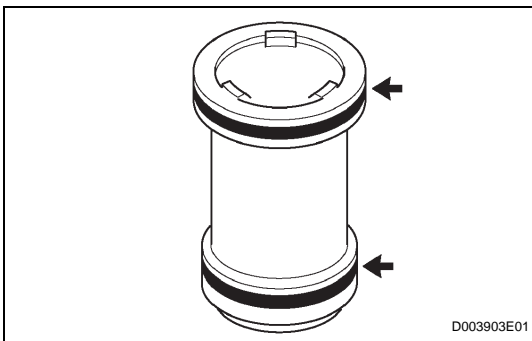
19. REMOVE C-1 ACCUMULATOR PISTON

- (a) Apply compressed air (392 kPa, 4.0 kgf/cm², 57 psi) to the oil hole and remove the C-1 accumulator piston and compression spring.

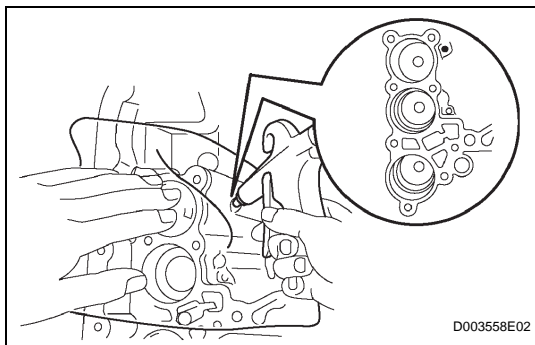
NOTICE:

- Applying compressed air may cause the piston to jump out. When removing the piston, hold it with your hand using a waste cloth.
- Make sure not to spatter ATF when applying compressed air.

- (b) Remove the 2 O-rings from the C-1 accumulator piston.



AX



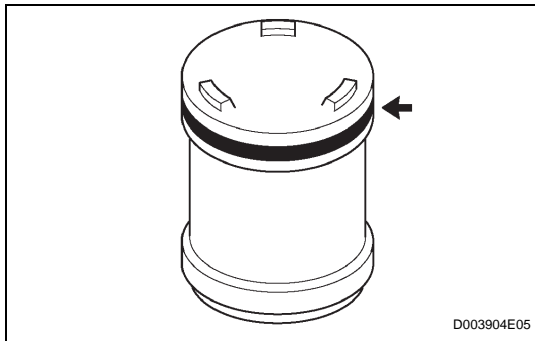
20. REMOVE B-3 ACCUMULATOR PISTON

- (a) Apply compressed air (392 kPa, 4.0 kgf/cm², 57 psi) to the oil hole and remove the B-3 accumulator piston and 2 compression springs.

NOTICE:

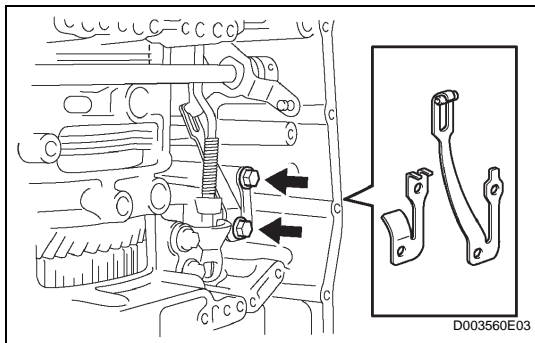
- Applying compressed air may cause the piston to jump out. When removing the piston, hold it with your hand using a waste cloth.
- Make sure not to spatter ATF when applying compressed air.

- (b) Remove the O-ring from the B-3 accumulator piston.



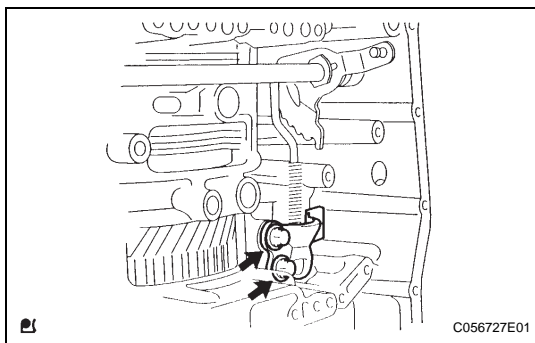
21. REMOVE MANUAL DETENT SPRING SUB-ASSEMBLY

- (a) Remove the 2 bolts, manual detent spring and cover.



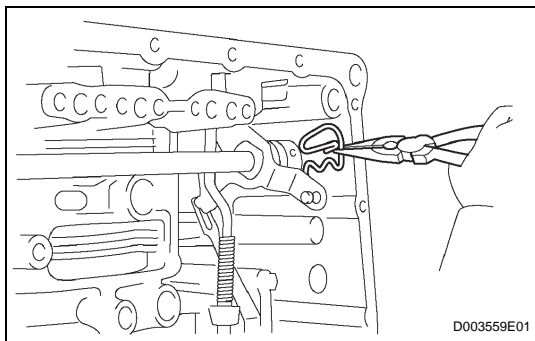
22. REMOVE PARKING LOCK PAWL BRACKET

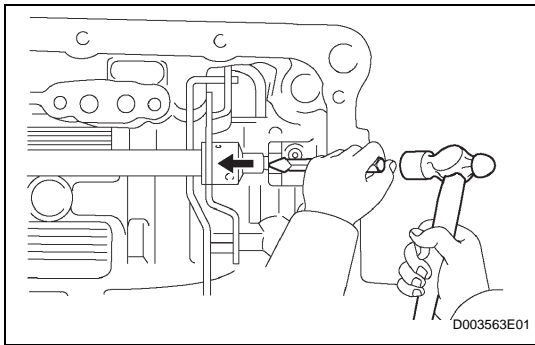
- (a) Remove the 2 bolts and parking lock pawl bracket.



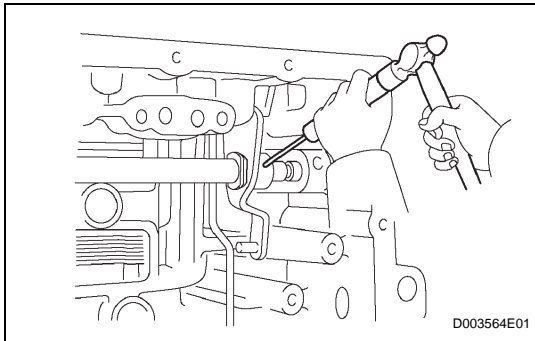
23. REMOVE MANUAL VALVE LEVER SHAFT RETAINER SPRING

- (a) Using needle-nose pliers, remove the retainer spring.



**24. REMOVE MANUAL VALVE LEVER SUB-ASSEMBLY**

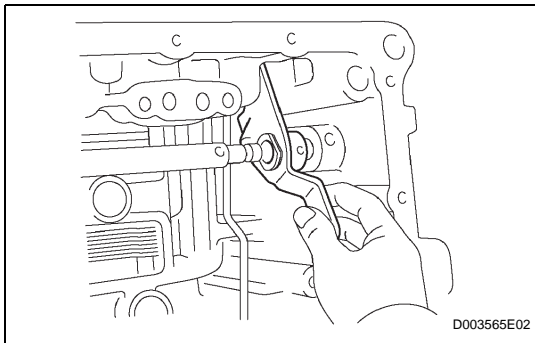
- (a) Using a chisel and hammer, unstick and remove the manual valve lever spacer.



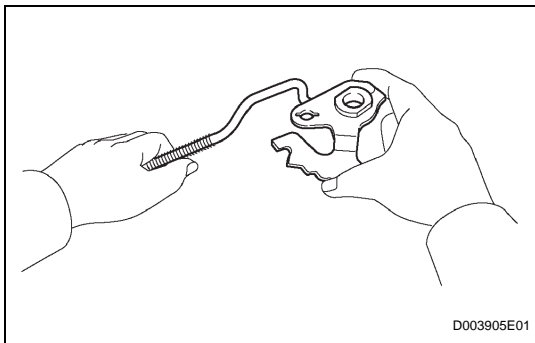
- (b) Using a pin punch and hammer, tap out the manual valve lever shaft spring pin.

HINT:

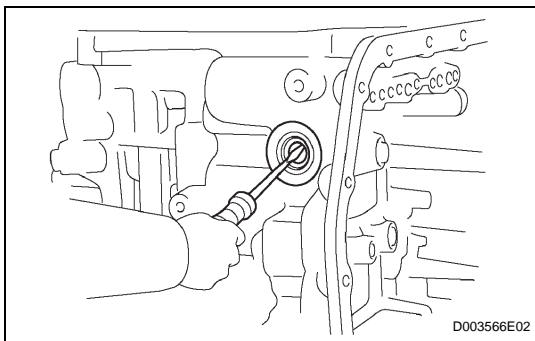
Slowly drive out the pin so that it will not fall into the transaxle.



- (c) Remove the manual valve lever shaft and manual valve lever.

**25. REMOVE PARKING LOCK ROD SUB-ASSEMBLY**

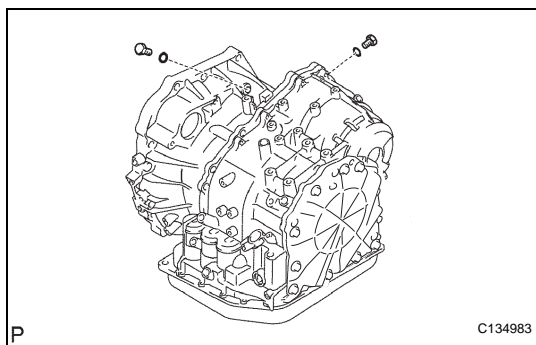
- (a) Remove the parking lock rod from the manual valve lever.

**26. REMOVE MANUAL VALVE LEVER SHAFT OIL SEAL**

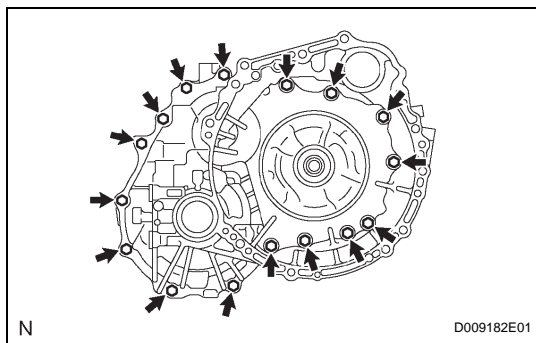
- (a) Using a screwdriver, pry out the oil seal from the transaxle.

27. INSPECT INPUT SHAFT END PLAY (See page [AX-185](#))

AX

**28. REMOVE NO. 1 TRANSAXLE CASE PLUG**

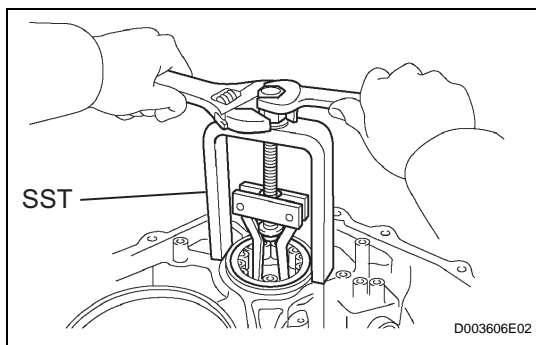
- (a) Remove the 2 plugs.
- (b) Remove the 2 O-rings from the plug.

**29. REMOVE TRANSAXLE HOUSING**

- (a) Remove the 16 bolts.
- (b) Tap on the circumference of the transaxle housing with a plastic-faced hammer to remove the transaxle housing from the transaxle.

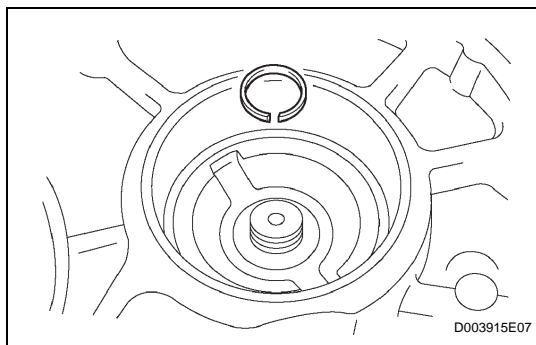
NOTICE:

Differential may be accidentally removed when the transaxle housing is removed.

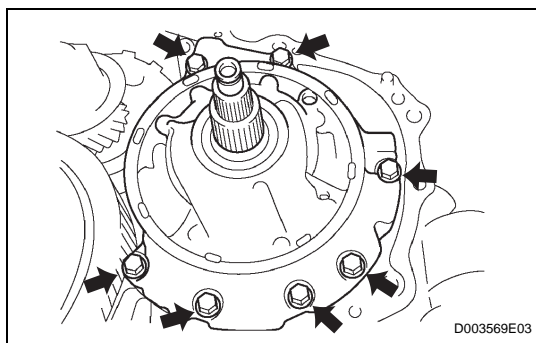
**30. REMOVE UNDERDRIVE CYLINDRICAL ROLLER BEARING**

- (a) Using SST, remove the cylindrical roller bearing from the transaxle.

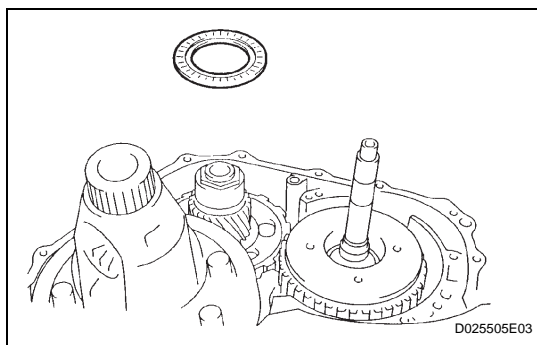
SST 09514-35011

**31. REMOVE UNDERDRIVE OUTPUT SHAFT OIL SEAL RING**

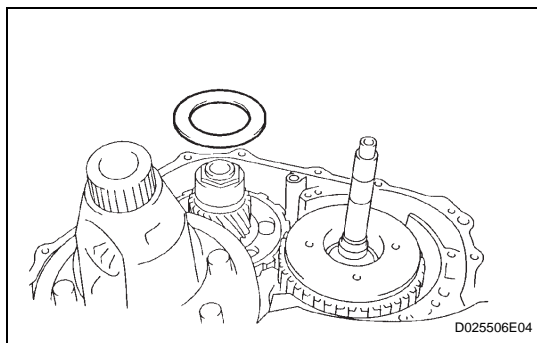
- (a) Remove the oil seal ring from the transaxle housing.

**32. REMOVE OIL PUMP ASSEMBLY**

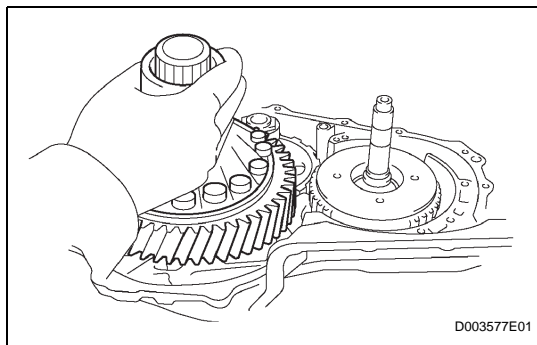
- (a) Remove the 7 bolts and oil pump assembly from the transaxle.

**33. REMOVE THRUST NEEDLE ROLLER BEARING**

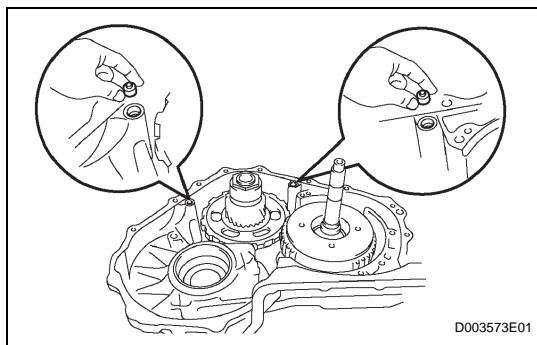
- (a) Remove thrust needle roller bearing from the underdrive planetary gear.

**34. REMOVE NO. 2 THRUST BEARING UNDERDRIVE RACE**

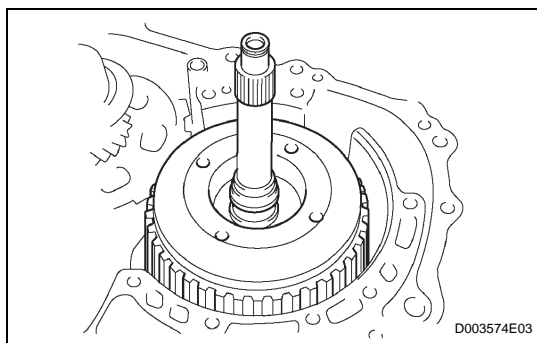
- (a) Remove the thrust bearing race from the underdrive planetary gear.

**35. REMOVE FRONT DIFFERENTIAL ASSEMBLY**

- (a) Remove the front differential from the transaxle.

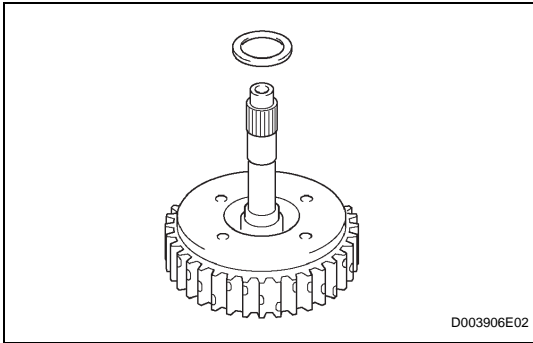
**36. REMOVE OVERDRIVE BRAKE GASKET**

- (a) Remove the 2 overdrive brake gaskets from the transaxle.

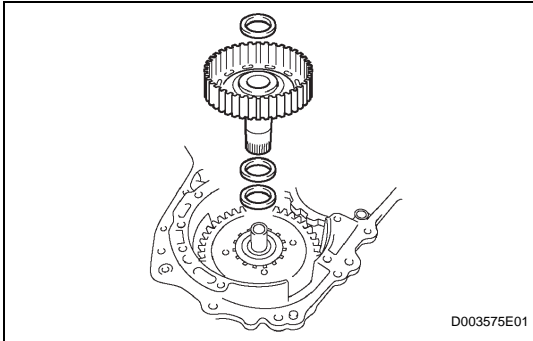
**37. REMOVE FORWARD CLUTCH ASSEMBLY**

- (a) Remove the forward clutch from the transaxle.

AX

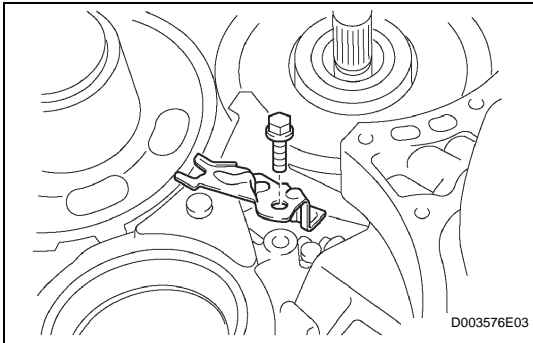


(b) Remove the thrust bearing from the forward clutch.



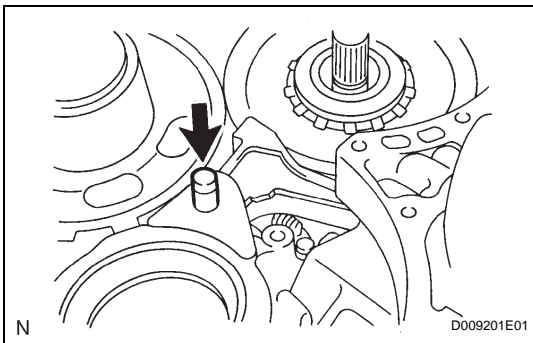
38. REMOVE MULTIPLE DISC CLUTCH CLUTCH HUB

(a) Remove the thrust bearing, multiple clutch hub, needle roller bearing and bearing race from the transaxle.

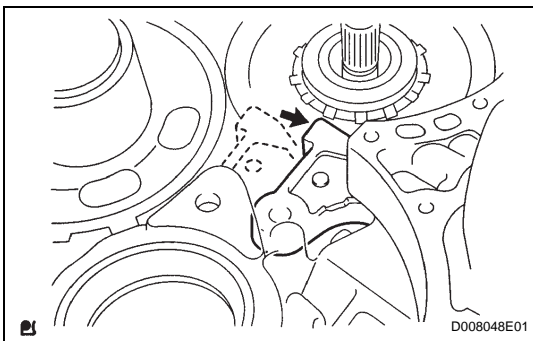


39. REMOVE UNDERDRIVE PLANETARY GEAR ASSEMBLY

(a) Remove the bolt and parking pawl shaft clamp.



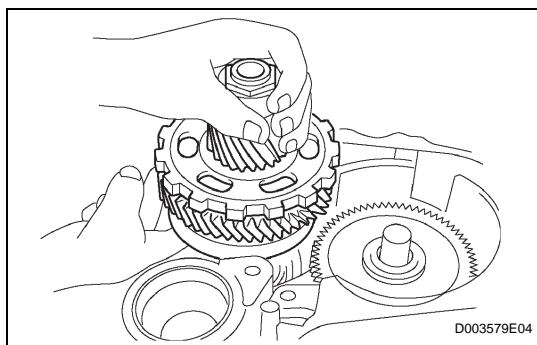
(b) Remove the parking lock pawl shaft.



(c) Push the parking lock pawl.

HINT:

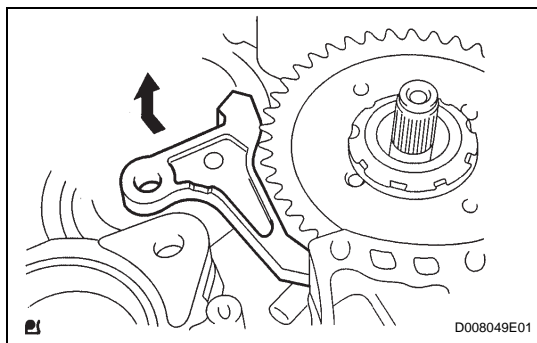
Failure to do so will cause the interference when the underdrive planetary gear is removed.



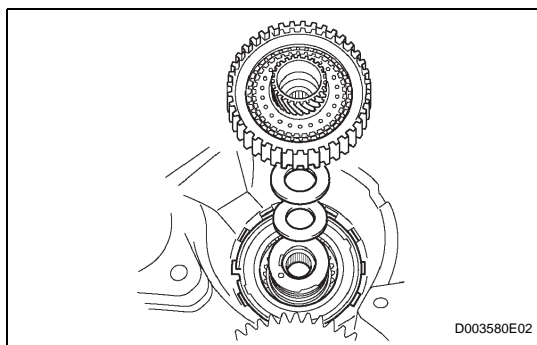
- (d) Remove the underdrive planetary gear from the transaxle.

NOTICE:

Be careful so that the underdrive planetary gear assembly will not fall out.

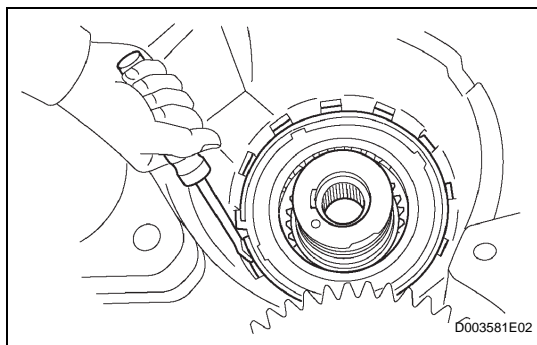


- (e) Remove the spring, pawl pin and parking lock pawl.



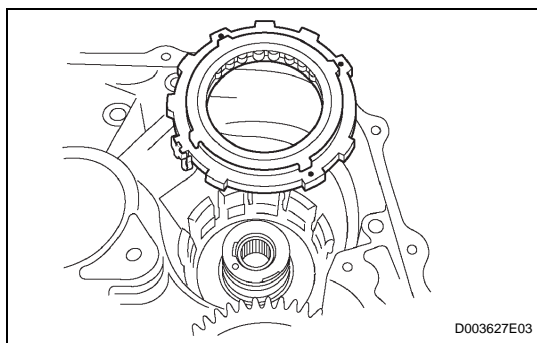
40. REMOVE UNDERDRIVE CLUTCH ASSEMBLY

- (a) Remove the underdrive clutch assembly, needle roller bearing, thrust bearing underdrive race from the transaxle.



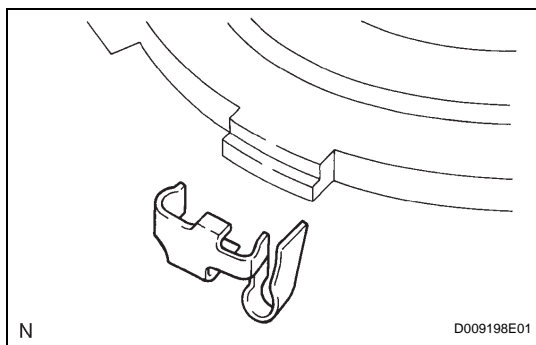
41. REMOVE UNDERDRIVE 1-WAY CLUTCH ASSEMBLY

- (a) Using a screwdriver, pry out the snap ring from the transaxle.

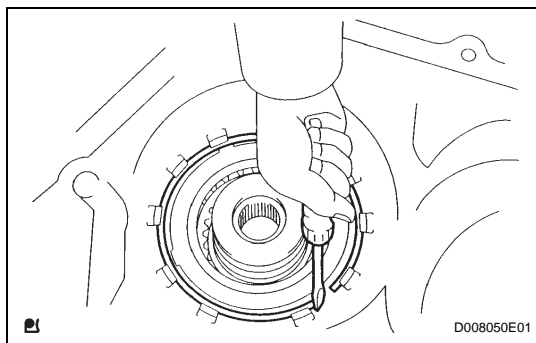


- (b) Remove the 1-way clutch from the transaxle.

AX

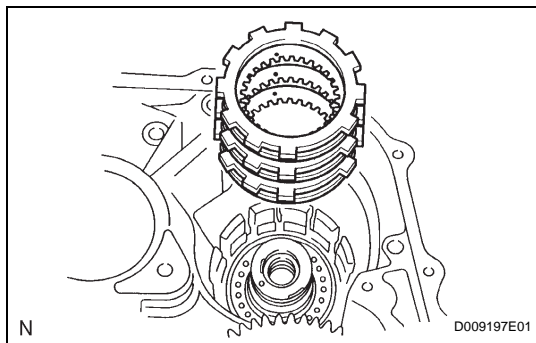


- (c) Remove the outer race retainer from the 1-way clutch.



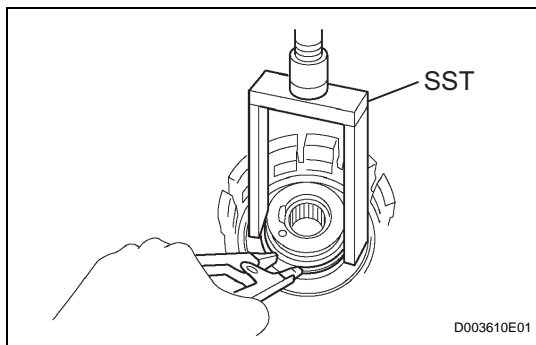
42. REMOVE NO. 2 UNDERDRIVE CLUTCH DISC

- (a) Using a screwdriver, pry out the snap ring from the transaxle.



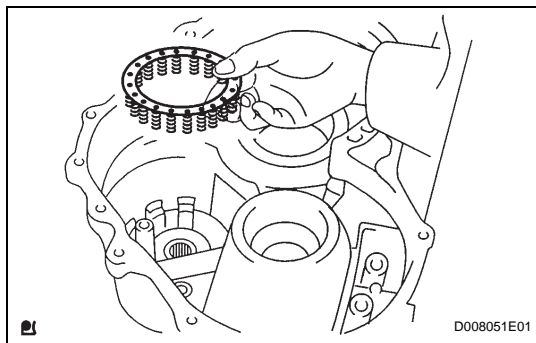
- (b) Remove the flange, 3 discs and 3 plates from the transaxle.

43. INSPECT NO. 2 UNDERDRIVE CLUTCH DISC (See page [AX-186](#))



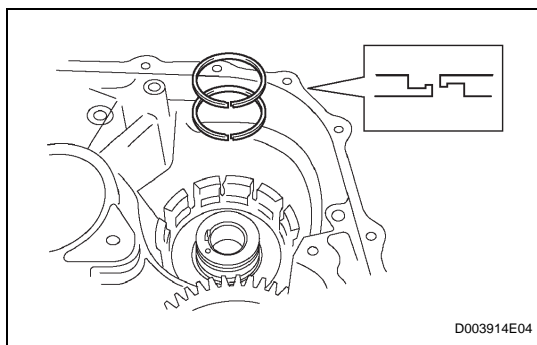
44. REMOVE UNDERDRIVE BRAKE RETURN SPRING SUB-ASSEMBLY

- (a) Using SST, a snap ring expander and press, remove the snap ring from the transaxle.
SST 09387-00020



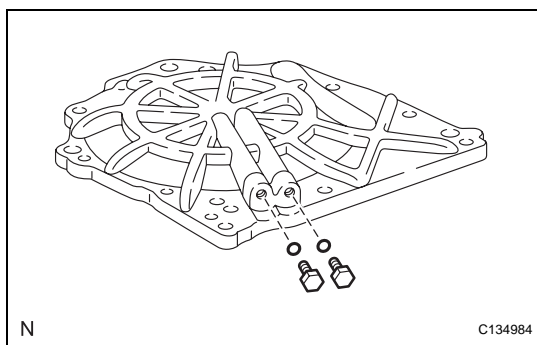
- (b) Remove the underdrive brake return spring from the underdrive brake piston.

45. INSPECT UNDERDRIVE BRAKE RETURN SPRING SUB-ASSEMBLY (See page [AX-186](#))



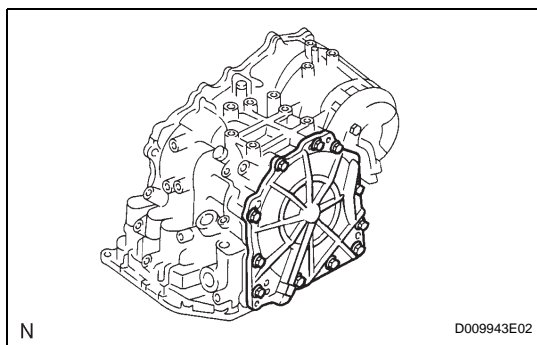
46. REMOVE UNDERDRIVE CLUTCH DRUM OIL SEAL RING

- (a) Remove the 2 oil seal rings from the transaxle.



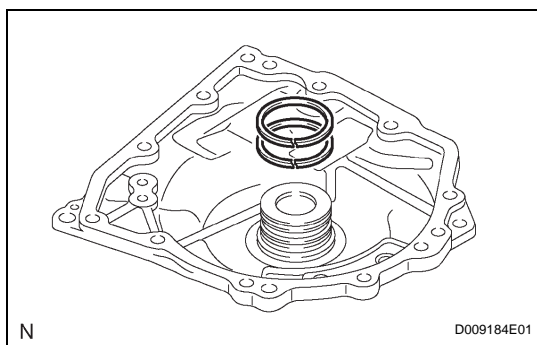
47. REMOVE NO. 1 TRANSAXLE CASE PLUG

- (a) Remove the 2 plugs from the transaxle rear cover.
(b) Remove the 2 O-rings from the 2 plugs.

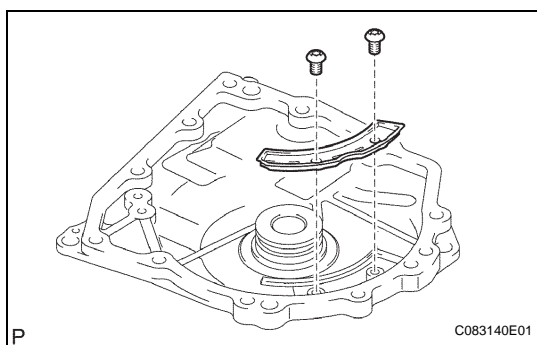


48. REMOVE REAR TRANSAXLE COVER SUB-ASSEMBLY

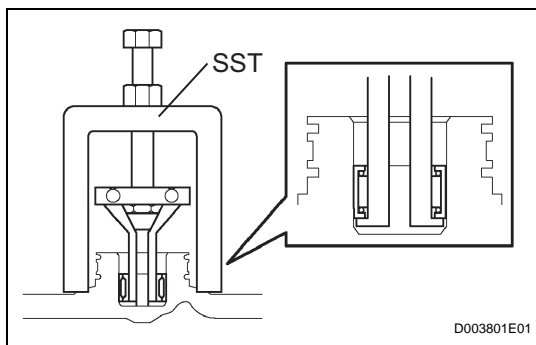
- (a) Remove the 11 bolts.
(b) Tap the circumference of the rear cover with a plastic-faced hammer to remove the transaxle rear cover from the transaxle.



- (c) Remove the 2 outer rear clutch oil seal rings from the transaxle rear cover.

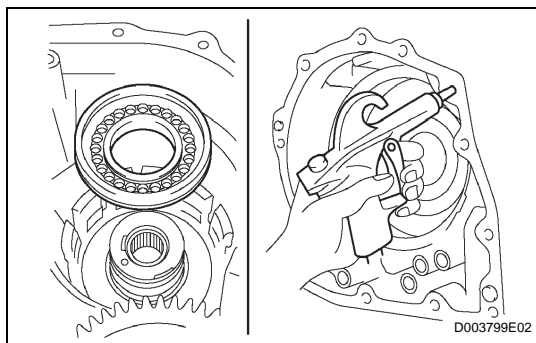


- (d) Using a T30 "torx" socket wrench, remove the 2 screws and transaxle rear cover plate.



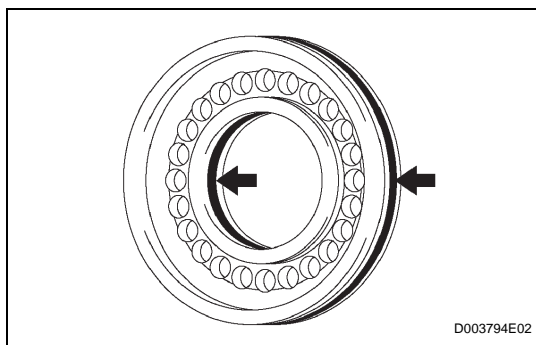
- (e) Using SST, remove the needle-roller bearing from the transaxle rear cover.

SST 09387-00041 (09387-01010, 09387-01030, 09387-01040)

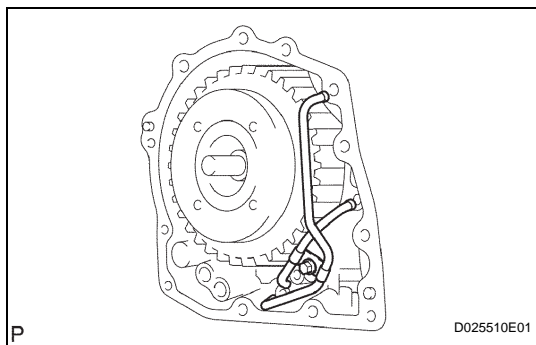


49. REMOVE UNDERDRIVE BRAKE PISTON

- (a) Apply compressed air (392 kPa, 4.0 kgf/cm², 57 psi) to the transaxle case to remove the underdrive brake piston.



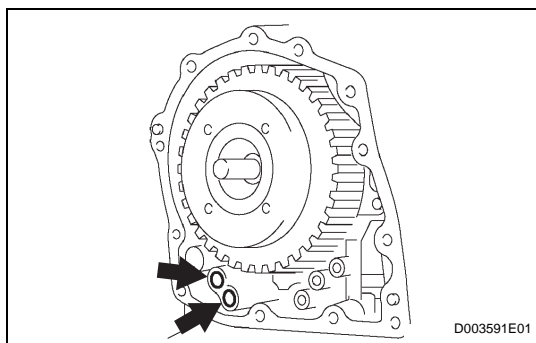
- (b) Remove the 2 O-rings from the underdrive brake piston.



50. REMOVE BRAKE APPLY TUBE

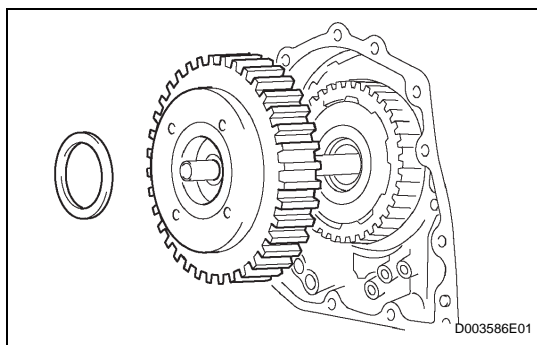
- (a) Remove the bolt, clamp and 2 brake apply tubes.
(b) Remove the brake apply tube from the clamp.

51. REMOVE FRONT CLUTCH APPLY TUBE

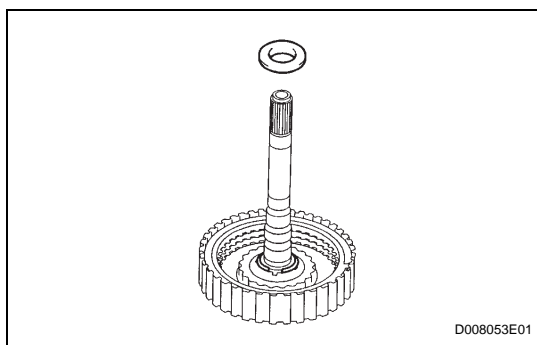


52. REMOVE NO. 1 GOVERNOR APPLY GASKET

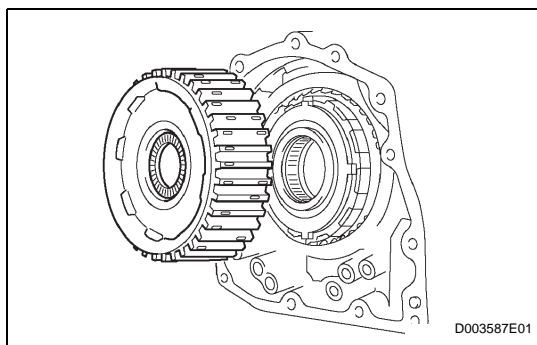
- (a) Using a screwdriver, remove the 2 governor apply gaskets.

**53. REMOVE DIRECT CLUTCH ASSEMBLY**

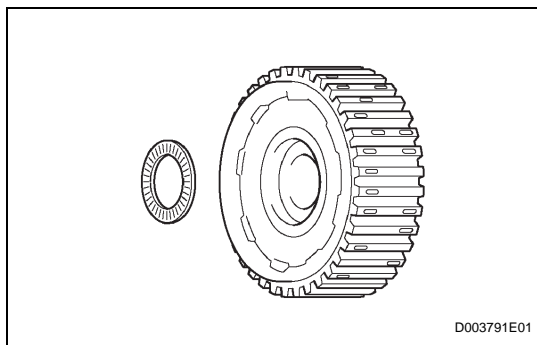
- (a) Remove the thrust bearing and direct clutch from the transaxle.



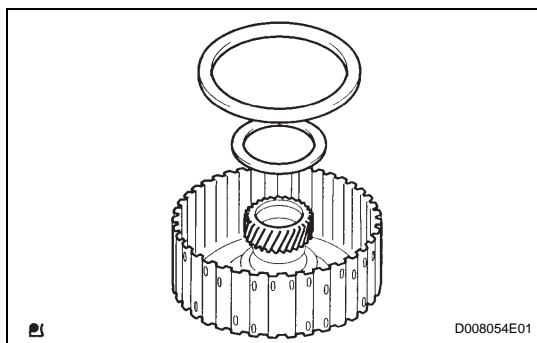
- (b) Remove the bearing race from the direct clutch.

**54. REMOVE REAR PLANETARY SUN GEAR ASSEMBLY**

- (a) Remove the rear planetary sun gear from the transaxle.

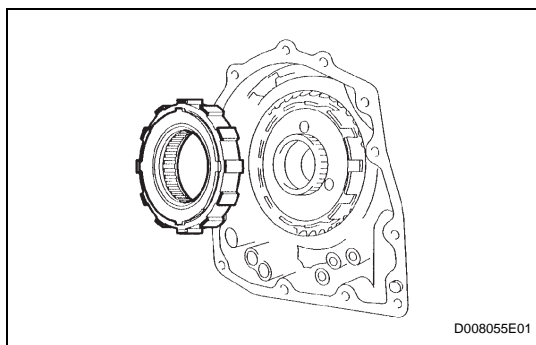


- (b) Remove the rear planetary sun gear thrust bearing from the rear planetary sun gear.

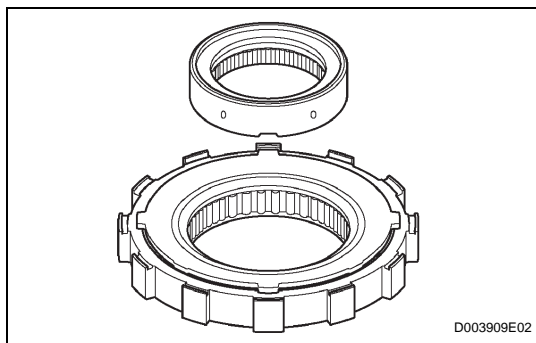


- (c) Remove the No. 1 thrust washer and 1-way clutch thrust bearing from the rear planetary sun gear.

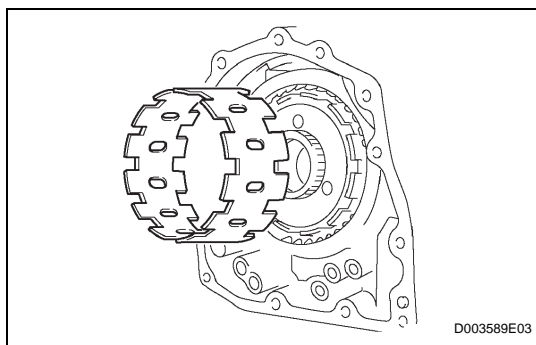
AX

**55. REMOVE 1-WAY CLUTCH ASSEMBLY**

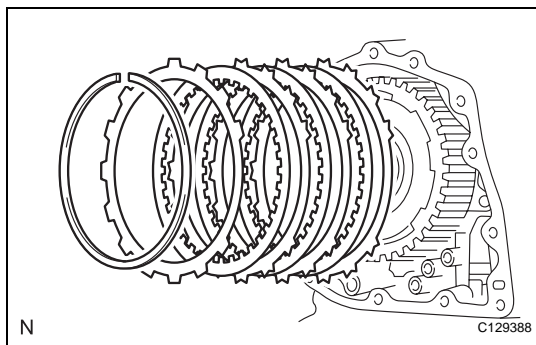
- (a) Remove the 1-way clutch from the transaxle.



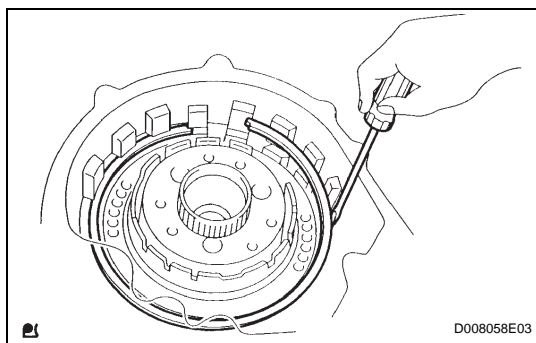
- (b) Remove the 1-way clutch inner race from the 1-way clutch.

**56. REMOVE 1-WAY CLUTCH SLEEVE OUTER****57. REMOVE 2ND BRAKE CLUTCH DISC**

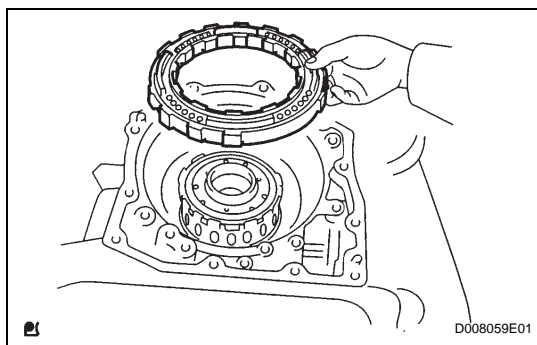
- (a) Using a screwdriver, remove the 2nd brake hole snap ring.



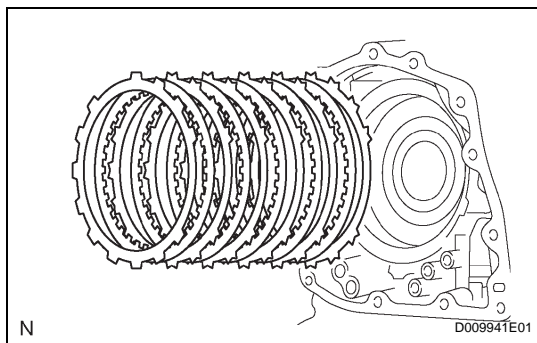
- (b) Remove the flange, 3 discs and 3 plates from the transaxle.

58. INSPECT 2ND BRAKE CLUTCH DISC (See page [AX-186](#))**59. REMOVE 2ND BRAKE PISTON ASSEMBLY**

- (a) Using a screwdriver, pry out the snap ring.



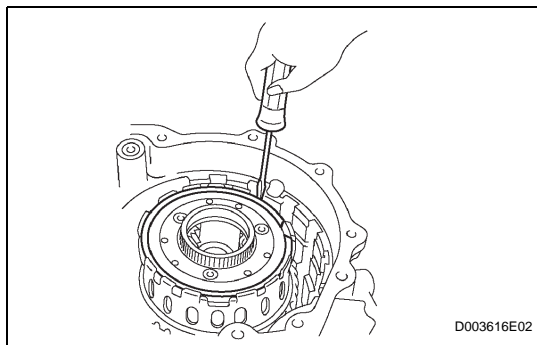
(b) Remove the 2nd brake piston from the transaxle.



60. REMOVE 1ST AND REVERSE BRAKE CLUTCH DISC

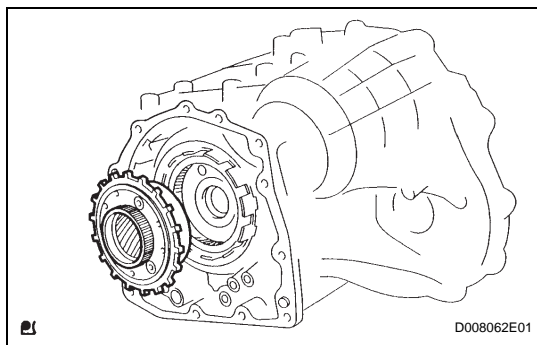
(a) Remove the flange, 5 discs and 5 plates from the transaxle.

61. INSPECT 1ST AND REVERSE BRAKE CLUTCH DISC
(See page [AX-186](#))

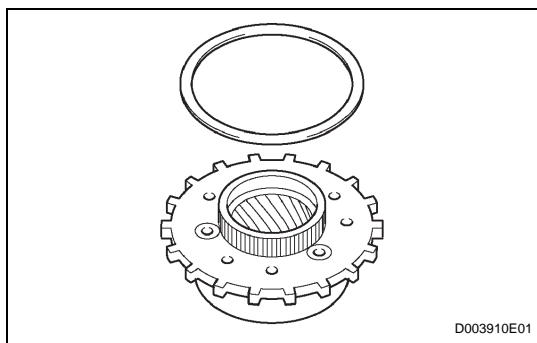


62. REMOVE REAR PLANETARY GEAR ASSEMBLY

(a) Using a screwdriver, pry out the snap ring from the brake hub.

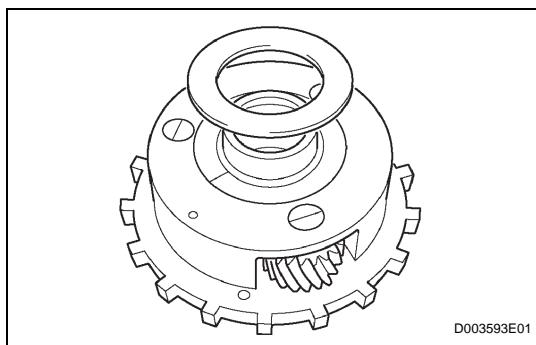


(b) Remove the rear planetary gear from the transaxle.

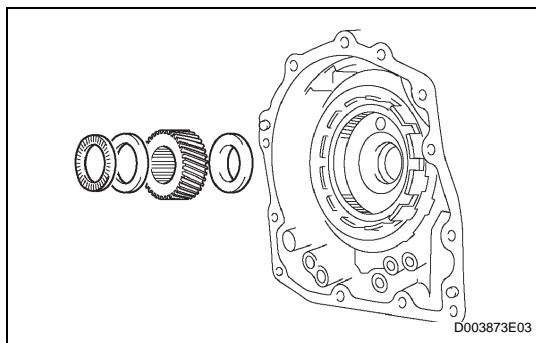


(c) Remove the thrust washer from the rear planetary gear.

AX

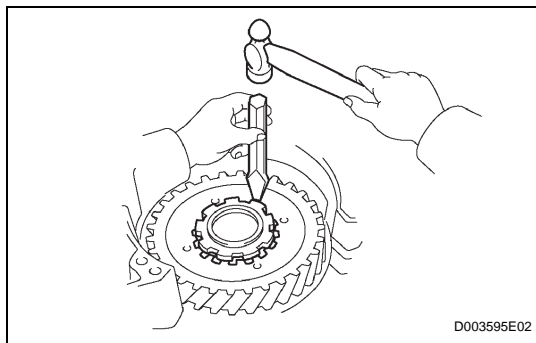


- (d) Remove the thrust bearing race from the rear planetary gear.



63. REMOVE INPUT SUN GEAR

- (a) Remove the 2 thrust bearings, bearing race and input sun gear from the transaxle.

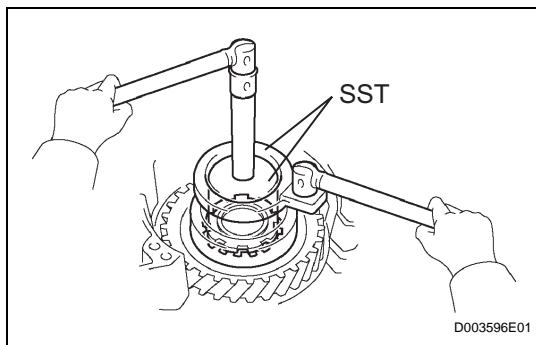


64. REMOVE FRONT PLANETARY GEAR ASSEMBLY

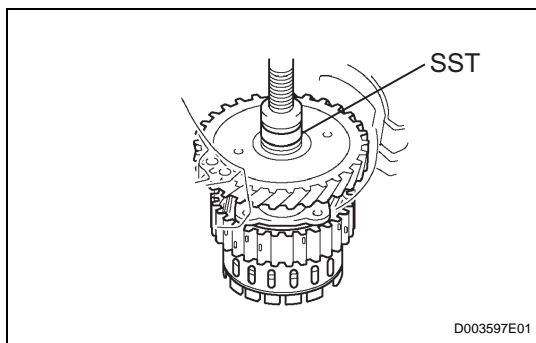
- (a) Using a chisel and hammer, unstake the lock washer.

NOTICE:

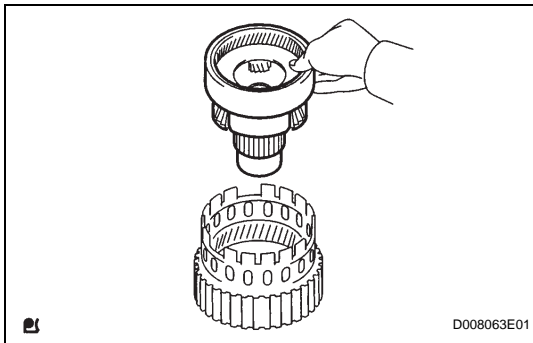
Push down all claws of the washer. Otherwise SST cannot be fully pressed against the nut and cannot loosen the nut.



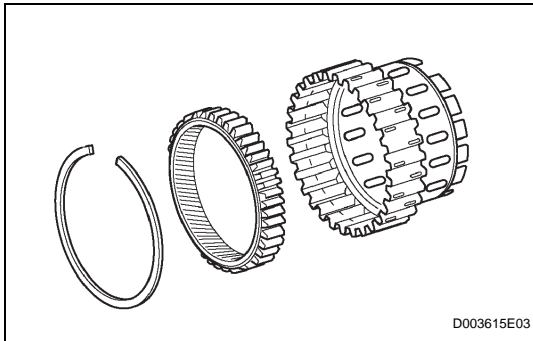
- (b) Using SST, remove the nut.
SST 09387-00030, 09387-00080



- (c) Using SST and a press, remove the front planetary gear from the counter drive gear.
SST 09950-60010 (09951-00450)

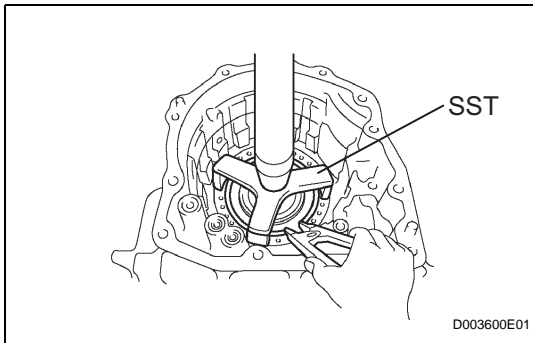


- (d) Remove the front planetary gear from the brake hub.



65. REMOVE FRONT PLANETARY RING GEAR

- (a) Using a screwdriver, pry out the brake hub snap ring and front planetary ring gear from the brake hub.



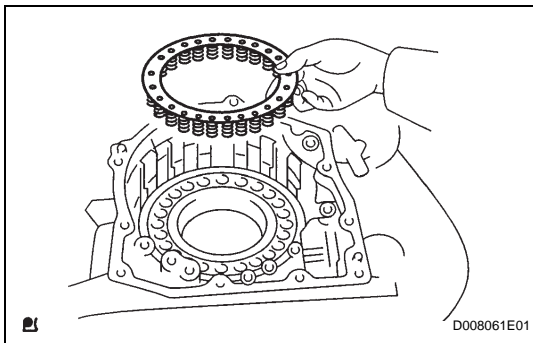
66. REMOVE 1ST AND REVERSE BRAKE PISTON

- (a) Using SST, a press and ring expander, remove the snap ring and piston return spring.

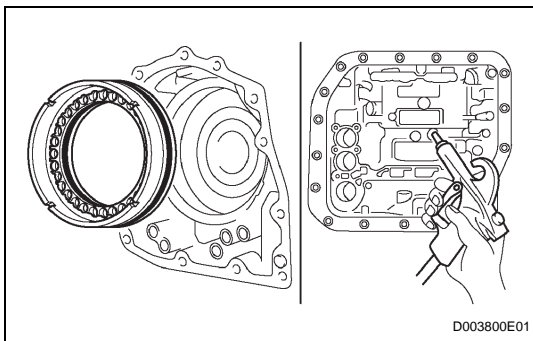
SST 09387-00070

NOTICE:

- Stop the press when the spring sheet is lowered 1 to 2 mm (0.039 to 0.078 in.) from the snap ring groove, preventing the spring sheet from deforming.
- Do not expand the snap ring excessively.



- (b) Remove the 1st and reverse brake return spring from the 1st and reverse brake piston.

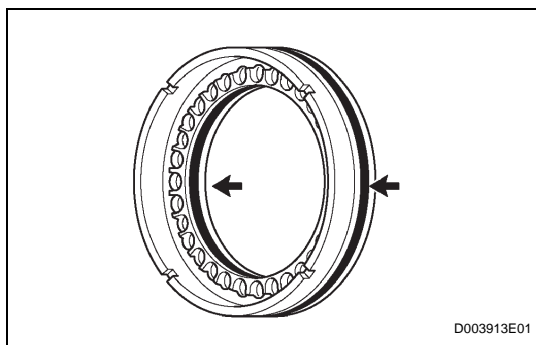


- (c) Apply compressed air (392 kPa, 4.0 kgf/cm², 57 psi) to the transaxle to remove the 1st and reverse brake piston.

NOTICE:

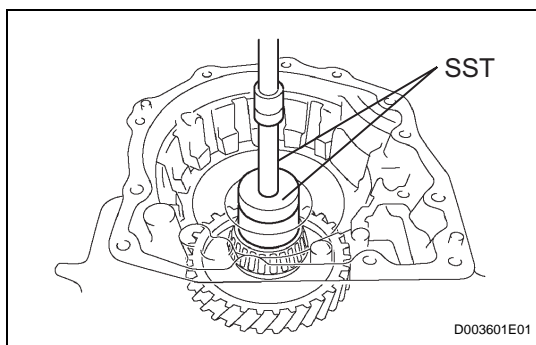
- Applying compressed air may cause the piston to jump out. When removing the piston, hold it with your hand using a waste cloth.
- Make sure not to spatter ATF when applying compressed air.

AX



- (d) Remove the 2 O-rings from the 1st and reverse brake piston.

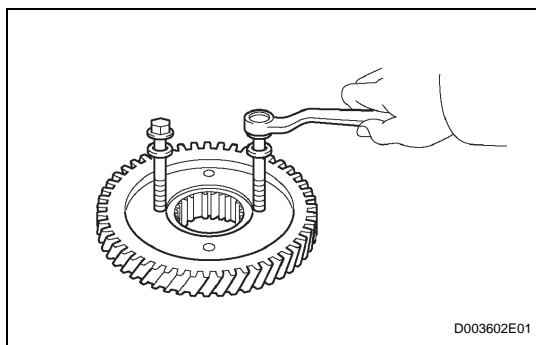
67. INSPECT 1ST AND REVERSE BRAKE RETURN SPRING SUB-ASSEMBLY (See page [AX-186](#))



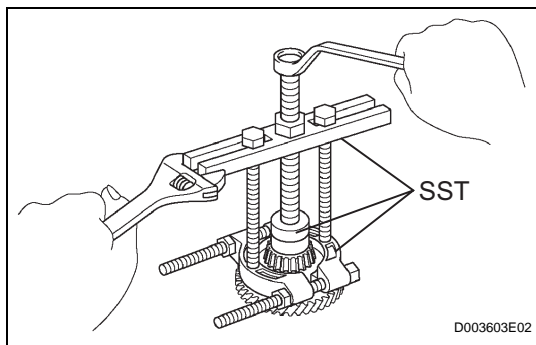
68. REMOVE COUNTER DRIVE GEAR

- (a) Using SST and a press, press out the counter drive gear from the transaxle.

SST 09950-60010 (09951-00600), 09950-70010 (09951-07100)

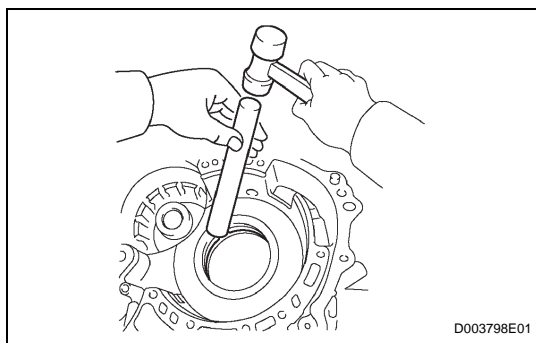


- (b) As shown in the illustration, tighten the 2 bolts evenly and make a clearance of approximately 20.0 mm (0.797 in.) between the counter drive gear and the inner race.

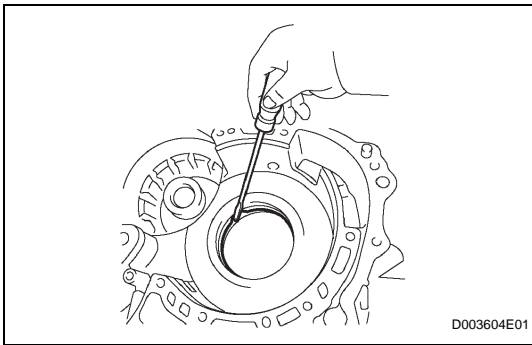


- (c) Using SST, remove the tapered roller bearing.

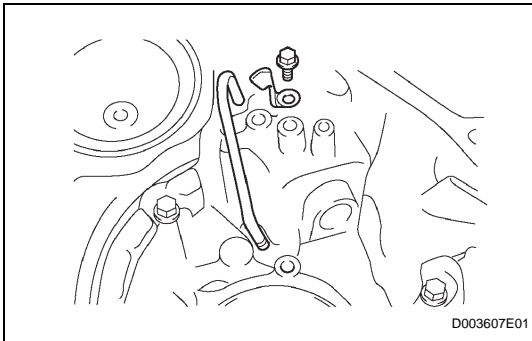
SST 09950-60010 (09951-00600), 09950-40011 (09951-04010, 09952-04010, 09953-04020, 09954-04010, 09955-04011, 09958-04011)



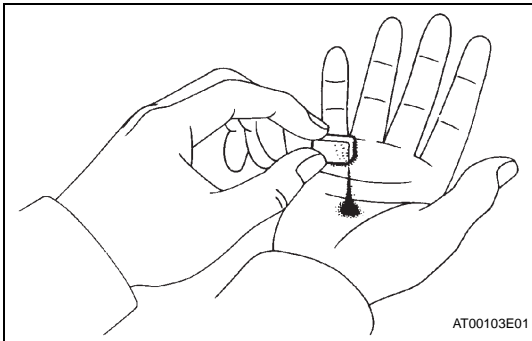
- (d) Using a brass bar and hammer, tap out the 2 counter drive gear bearing outer races from the transaxle.

**69. REMOVE COUNTER DRIVE GEAR HOLE SNAP RING**

- (a) Using a screwdriver, pry out the snap ring from the transaxle.

70. REMOVE NO. 2 BREATHER PLUG**71. REMOVE DIFFERENTIAL GEAR LUBE APPLY TUBE**

- (a) Remove the bolt, the transaxle apply tube clamp and the differential gear lube apply tube from the transaxle.

**INSPECTION****1. INSPECT AUTOMATIC TRANSAXLE OIL PAN SUB-ASSEMBLY**

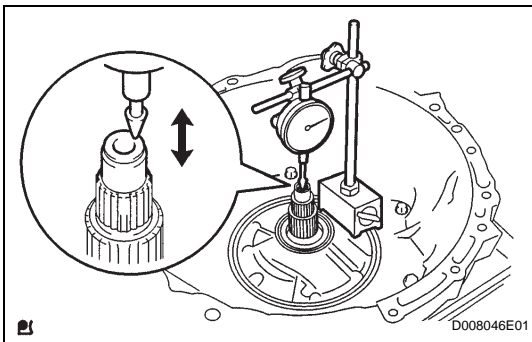
- (a) Remove the magnets and use them to collect any steel chips. Examine the clips and particles in the pan and on the magnet to determine what type of wear has occurred in the transaxle.
 Steel (magnetic): bearing, gear and plate wear
 Brass (non-magnetic): bush wear

2. INSPECT INPUT SHAFT END PLAY

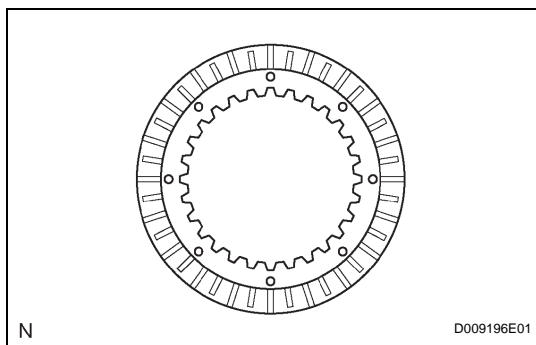
- (a) Fix the transaxle case with the oil pump side facing up.
 (b) Using a dial indicator, measure the input shaft end play.

Standard end play:

0.26 to 1.25 mm (0.0103 to 0.0492 in.)



AX



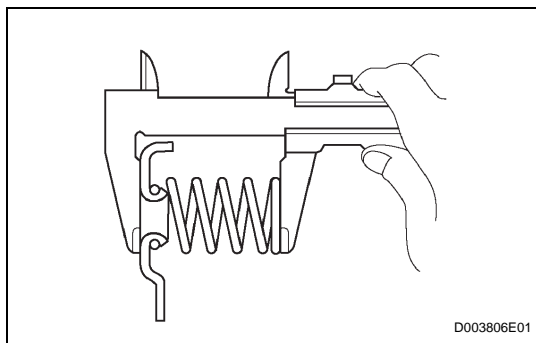
3. INSPECT NO. 2 UNDERDRIVE CLUTCH DISC

Check to see if the sliding surface of the disc, plate and flange are worn or burnt.

If necessary, replace them.

NOTICE:

- If the lining of the disc is peeling off or discolored, or even if a part of the groove is defaced, replace all discs.
- Before assembling new discs, soak them in ATF for at least 15 minutes.

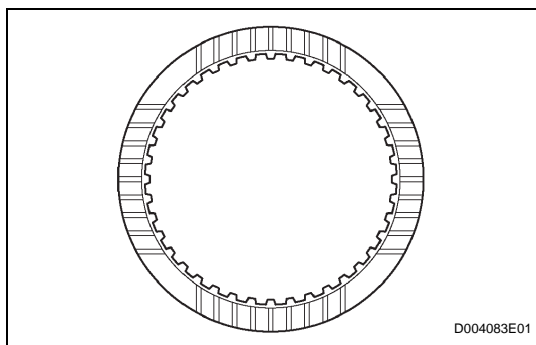


4. INSPECT UNDERDRIVE BRAKE RETURN SPRING SUB-ASSEMBLY

- (a) Using a vernier caliper, measure the free length of the underdrive brake return spring together with the spring seat.

Standard free length:

14.04 mm (0.5213 in.)



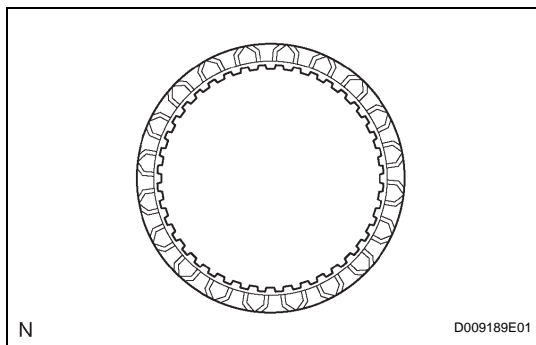
5. INSPECT 2ND BRAKE CLUTCH DISC

- (a) Check to see if the sliding surface of the disc, plate and flange are worn or burnt.

If necessary, replace them.

NOTICE:

- If the lining of the disc is peeling off or discolored, or even if a part of the printed number is defaced, replace all discs.
- Before assembling new discs, soak them in ATF for at least 15 minutes.



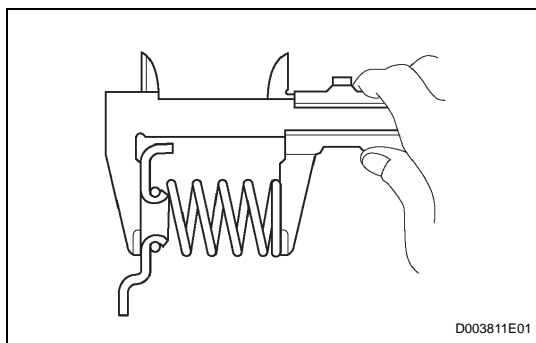
6. INSPECT 1ST AND REVERSE BRAKE CLUTCH DISC

- (a) Check to see if the sliding surface of the disc, plate and flange are worn or burnt.

If necessary, replace them.

NOTICE:

- If the lining of the disc is peeling off or discolored, or even if a part of the groove is defaced, replace all discs.
- Before assembling new discs, soak them in ATF for at least 15 minutes.

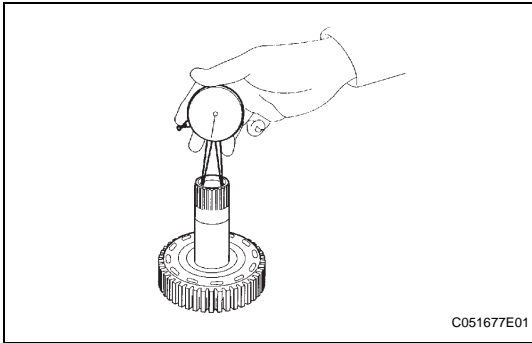


7. INSPECT 1ST AND REVERSE BRAKE RETURN SPRING SUB-ASSEMBLY

- (a) Using a vernier caliper, measure the free length of the 1st and reverse brake return spring together with the spring seat.

Standard free length:

15.51 mm (0.6106 in.)

**8. INSPECT MULTIPLE DISC CLUTCH CLUTCH HUB**

- (a) Using a caliper gauge, measure the inside diameter of the forward clutch hub bush.

Standard inside diameter:

23.025 to 23.045 mm (0.9065 to 0.9073 in.)

Maximum inside diameter:

23.09 mm (0.9091 in.)

NOTICE:

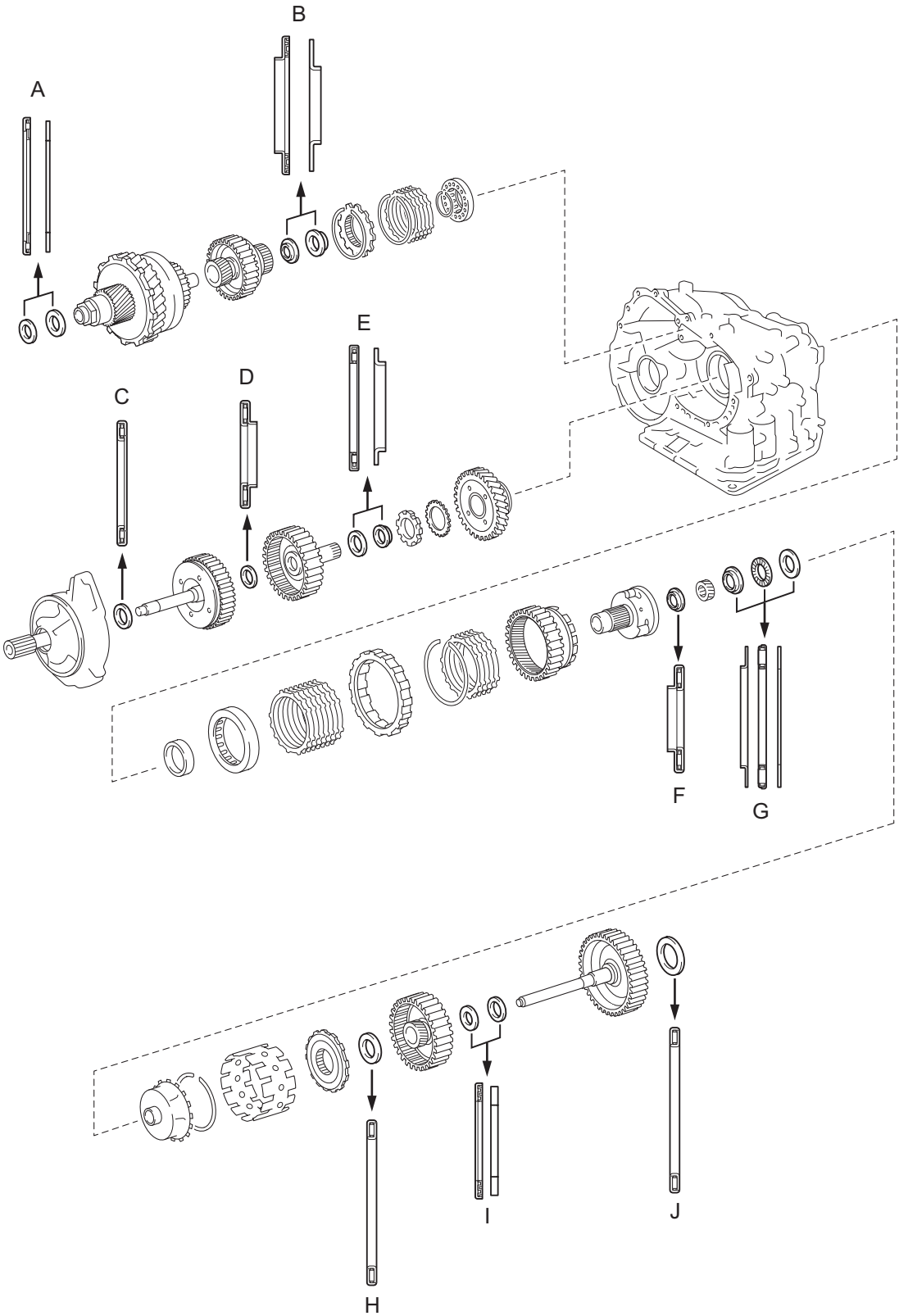
- When the diameter is over the maximum, replace the multiple disc clutch hub with a new one.
- Check the contact surface of the bush in the direct clutch shaft. If any scratch or discolor is identified, replace the direct clutch sub-assembly with a new one.

If the inside diameter is greater than the maximum, replace the forward clutch hub.

AX

REASSEMBLY

1. BEARING POSITION

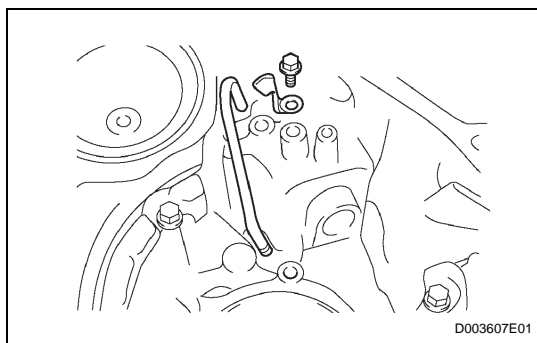


AX

Standard bearing position

Mark	Front Race Diameter Inside / Outside	Thrust Bearing Diameter Inside / Outside	Rear Race Diameter Inside / Outside
A	-	53.0 mm (2.087 in.) / 78.2 mm (3.079 in.)	52.1 mm (2.051 in.) / 75.5 mm (2.972 in.)
B	-	37.73 mm (1.4854 in.) / 58.0 mm (2.283 in.)	29.9 mm (1.177 in.) / 55.5 mm (2.185 in.)
C	-	33.85 mm (1.3327 in.) / 52.2 mm (2.055 in.)	-
D	-	23.5 mm (0.925 in.) / 44.0 mm (1.732 in.)	-
E	-	36.3 mm (1.492 in.) / 52.2 mm (2.055 in.)	34.5 mm (1.358 in.) / 48.5 mm (1.909 in.)
F	-	34.6 mm (1.362 in.) / 52.2 mm (2.055 in.)	-
G	40.3 mm (1.587 in.) / 58.0 mm (2.283 in.)	38.6 mm (1.520 in.) / 60.0 mm (2.362 in.)	38.6 mm (1.520 in.) / 58.0 mm (2.283 in.)
H	-	53.6 mm (2.110 in.) / 69.6 mm (2.740 in.)	-
I	-	33.7 mm (1.327 in.) / 48.2 mm (1.898 in.)	30.3 mm (1.193 in.) / 46.0 mm (1.811 in.)
J	-	53.6 mm (2.110 in.) / 70.18 mm (2.763 in.) or 69.6 mm (2.740 in.)	-

AX

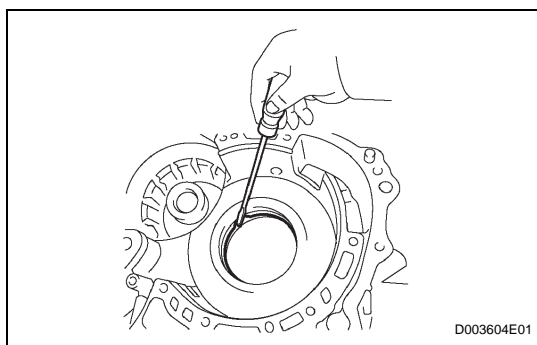
**2. INSTALL DIFFERENTIAL GEAR LUBE APPLY TUBE**

- (a) Install the apply tube and apply tube clamp to the transaxle housing with the bolt.

Torque: 9.8 N*m (100 kgf*cm, 87 in.*lbf)

NOTICE:

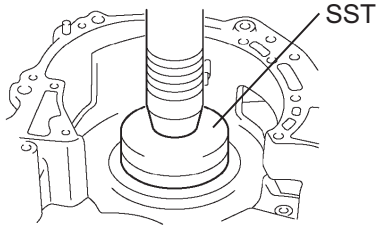
Make sure to insert the tube to the stopper.

3. INSTALL NO. 2 BREATHER PLUG**4. INSTALL COUNTER DRIVE GEAR HOLE SNAP RING**

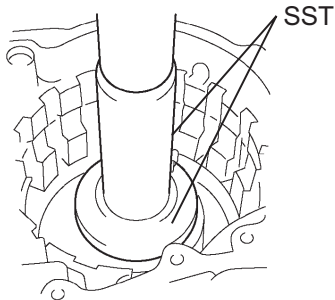
- (a) Using a screwdriver, install the hole snap ring to the transaxle.

AX

Counter Drive Gear Side



Front Planetary Gear Side



D003611E04

5. INSTALL COUNTER DRIVE GEAR

- (a) Using SST and a press, press in the 2 counter drive gear bearings outer races to the transaxle.

NOTICE:

- Press-fit the bearing race until it contacts the snap ring.
- Do not apply excessive pressure.

SST 09950-60020 (09951-00890, 09951-07150)

- (b) Using SST and a press, press in the tapered roller bearing to the counter drive gear.

SST 09649-17010

NOTICE:

- Press-fit the bearing inner race until it contacts the counter drive gear.
- Do not apply excessive pressure.

- (c) Using SST and a press, press in the counter drive gear and bearing to the transaxle.

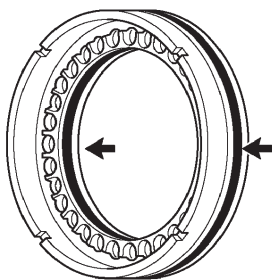
SST 09950-60020 (09951-00890), 09950-70010 (09951-07150)

NOTICE:

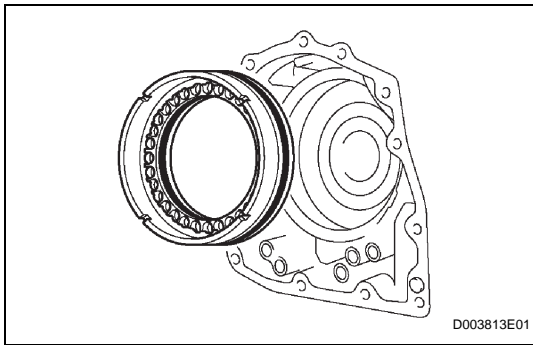
Do not apply excessive pressure.

6. INSTALL 1ST AND REVERSE BRAKE PISTON

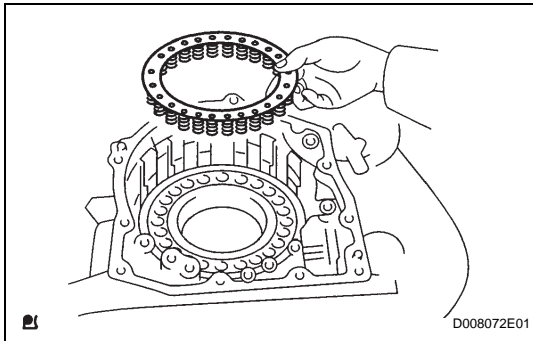
- (a) Coat 2 new O-rings with ATF.
(b) Install the 2 O-ring to the 1st and reverse brake piston.



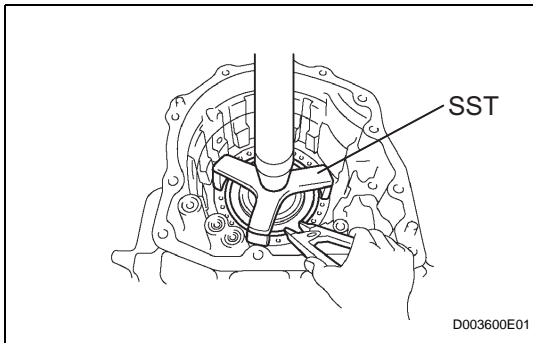
D003913E01



- (c) Coat the 1st and reverse brake piston with ATF, and install it to the transaxle.



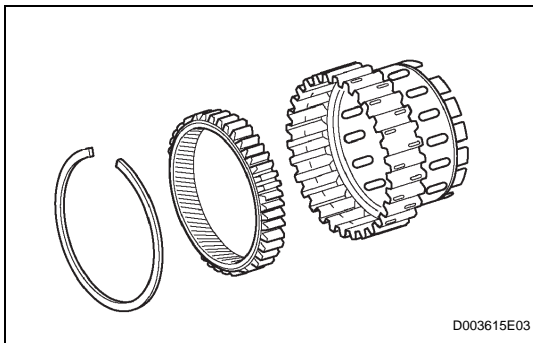
- (d) Install the 1st and reverse brake return spring to the 1st and reverse brake piston.



- (e) Using SST, a press and snap ring expander, press the piston return spring and snap ring to the transaxle.

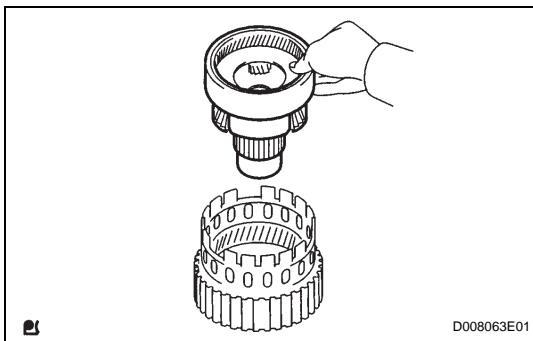
NOTICE:

- Stop the press when the spring sheet is lowered to the place 1 to 2 mm (0.039 to 0.078 in.) from the snap ring groove, preventing the spring sheet from being deform.
- Do not expand the snap ring excessively.



7. INSTALL FRONT PLANETARY RING GEAR

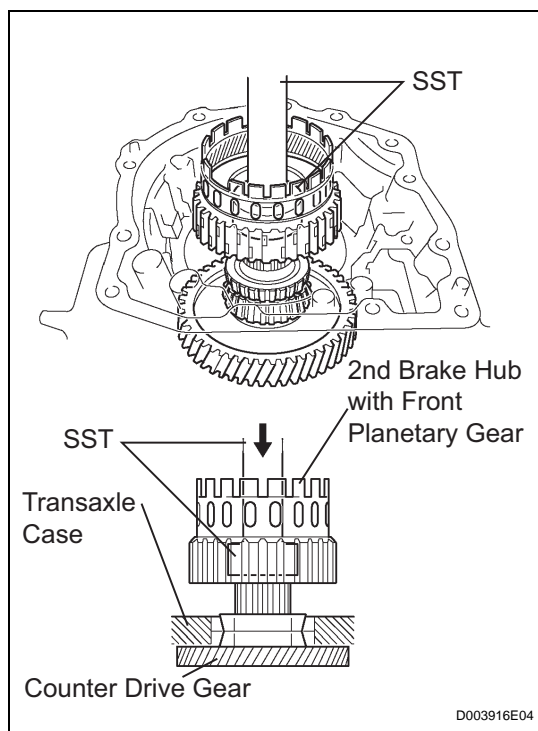
- (a) Using a screwdriver, install the front planetary ring gear and brake hub snap ring to the brake hub.



8. INSTALL FRONT PLANETARY GEAR ASSEMBLY

- (a) Install the front planetary gear to the brake hub.

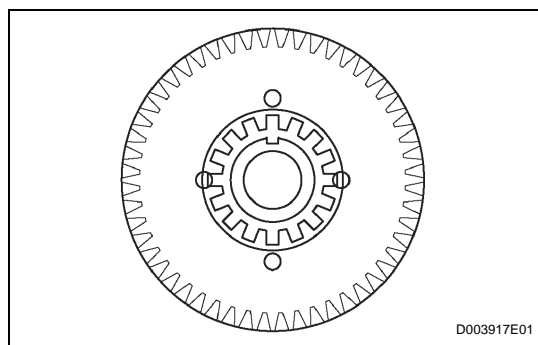
AX



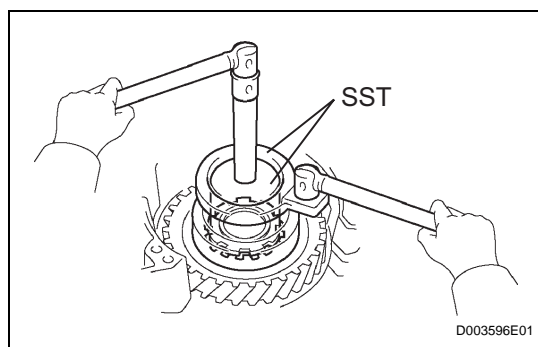
- (b) Using SST and a press, press-fit the front planetary gear.

NOTICE:

Do not apply excessive pressure to it.



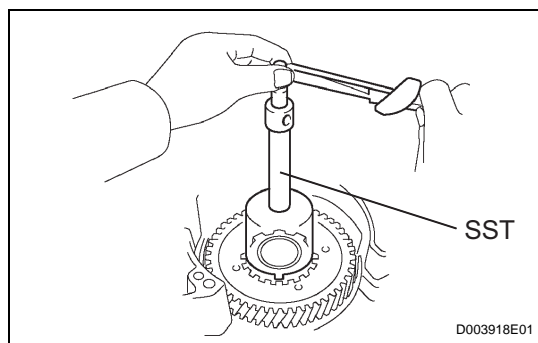
- (c) Install the front planetary gear washer, as shown in the illustration.



- (d) Using SST, install the nut.

SST 09387-00030, 09387-00080

Torque: 280 N*m (2,855 kgf*cm, 206 ft.*lbf)



- (e) Using SST and a torque wrench, measure the turning torque of the bearing while rotating SST at 60 rpm. When the measured value is not within the specified value, gradually tighten the nut until it reaches the specified value.

SST 09950-60010 (09951-00400), 09950-70010 (09951-07100), 09387-00030, 09387-00080

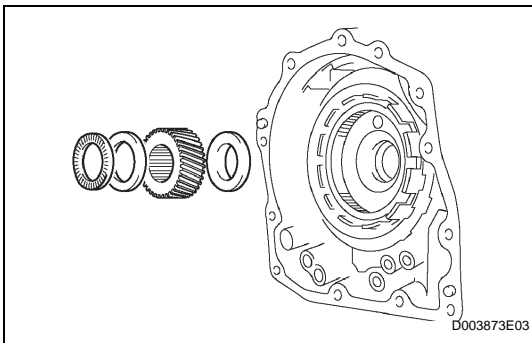
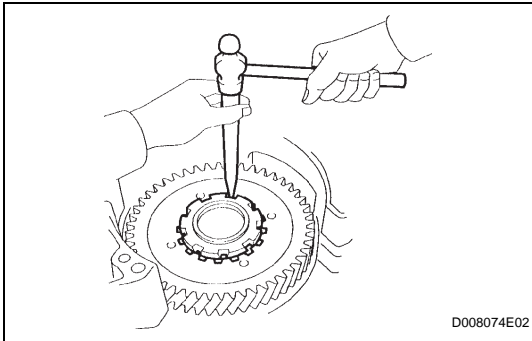
Torque: Turning torque at 60 rpm

0.5 to 1.0 N*m (5.1 to 10.0 kgf*cm, 4.4 to 8.7 in.*lbf) for new

0.3 to 0.5 N*m (3.1 to 5.1 kgf*cm, 2.7 to 4.4 in.*lbf) for used

- (f) Using a chisel and hammer, stake the front planetary gear washer.

AX

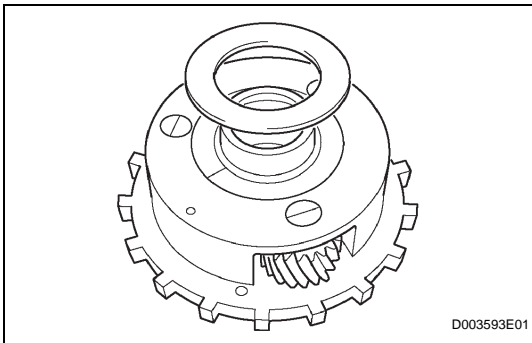


9. INSTALL INPUT SUN GEAR

- (a) Install the 2 thrust bearings, bearing race and front planetary sun gear to the planetary gear.

Standard bearing race diameter

Item	Inside	Outside
Bearing	34.6 mm (1.362 in.)	52.2 mm (2.055 in.)
Race	40.3 mm (1.587 in.)	58.0 mm (2.283 in.)
Bearing	38.6 mm (1.520 in.)	60.0 mm (2.362 in.)

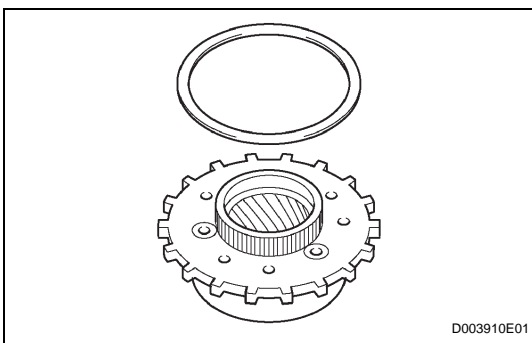


10. INSTALL REAR PLANETARY GEAR ASSEMBLY

- (a) Coat the bearing race with ATF, and install it to the rear planetary gear.

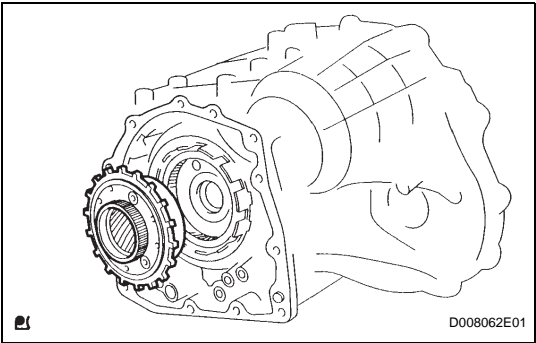
Standard bearing race diameter

Item	Inside	Outside
Race	38.6 mm (1.520 in.)	58.0 mm (2.283 in.)

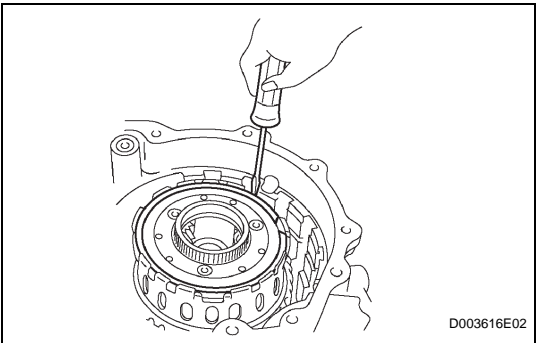


- (b) Install the planetary carrier thrust washer to the planetary gear.

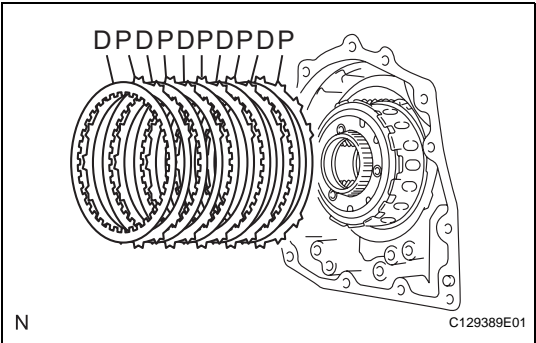
AX



- (c) Install the rear planetary gear to the rear planetary ring gear.



- (d) Using a screwdriver, install the snap ring to the brake hub.



11. INSTALL 1ST AND REVERSE BRAKE CLUTCH DISC

- (a) Install the 5 plates and 5 discs.

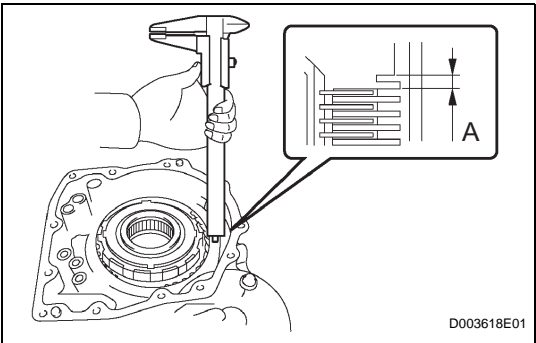
Install in order:

P - D - P - D - P - D - P - D - P - D

HINT:

P = Plate

D = Disc



- (b) Using a vernier caliper, measure the distance between the disc surface and the contact surface of the 2nd brake cylinder and transaxle (Dimension A).
- (c) Select an appropriate flange so that the piston stroke will meet the specified value.

Pack clearance:

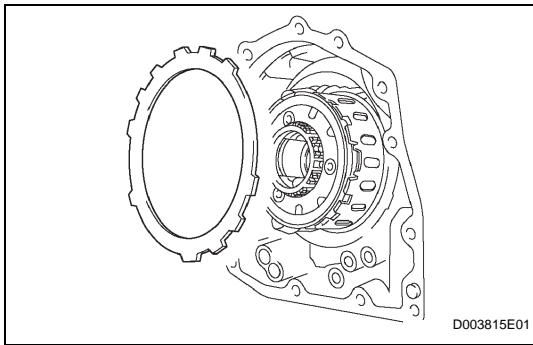
1.02 to 1.21 mm (0.0402 to 0.0476 in.)

HINT:

Piston stroke = Dimension A - Flange thickness

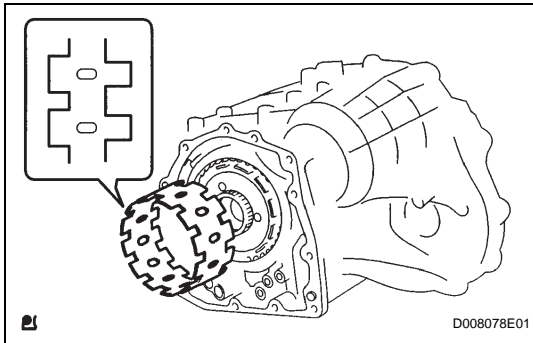
Standard flange thickness

Mark	Thickness	Mark	Thickness
1	1.8 mm (0.071 in.)	5	2.2 mm (0.087 in.)
2	1.9 mm (0.075 in.)	6	2.3 mm (0.091 in.)
3	2.0 mm (0.079 in.)	7	2.4 mm (0.094 in.)
4	2.1 mm (0.083 in.)	8	2.5 mm (0.098 in.)



(d) Install the flange.

12. INSPECT PACK CLEARANCE OF 1ST AND REVERSE BRAKE

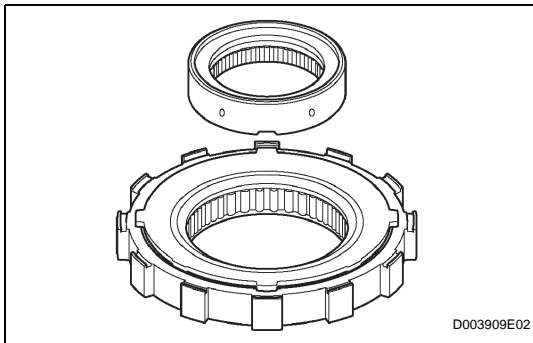


13. INSTALL 1-WAY CLUTCH SLEEVE OUTER

(a) Install the 1-way clutch outer sleeve to the 2nd brake cylinder.

NOTICE:

Check the positioning direction of the outer sleeve.

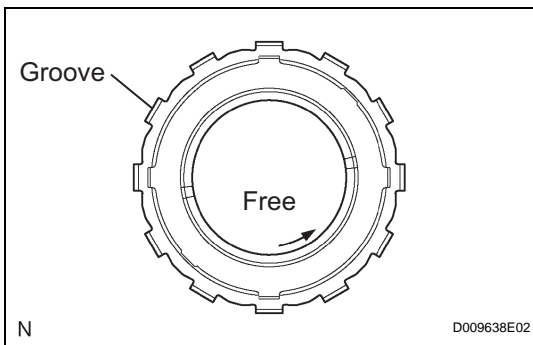


14. INSTALL 1-WAY CLUTCH ASSEMBLY

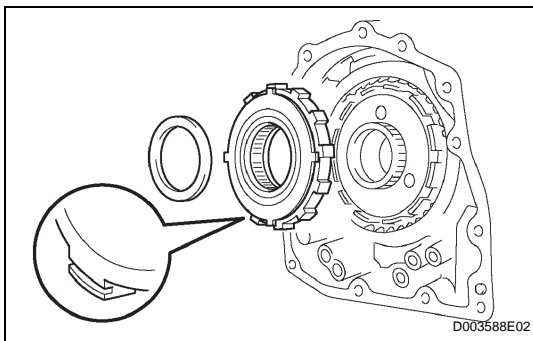
(a) Install the inner race to the 1-way clutch.

NOTICE:

Check the direction of the inner race.



(b) Check the rotating direction of the 1-way clutch for the lock or free operation, as shown in illustration.



(c) Install the 1-way clutch and bearing to the 1-way clutch outer race sleeve.

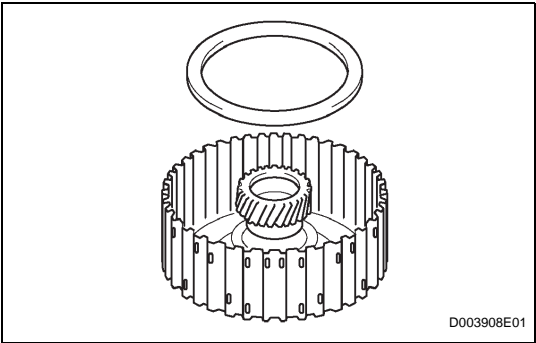
Standard bearing diameter

Item	Inside	Outside
Bearing	53.6 mm (2.110 in.)	69.6 mm (2.740 in.)

NOTICE:

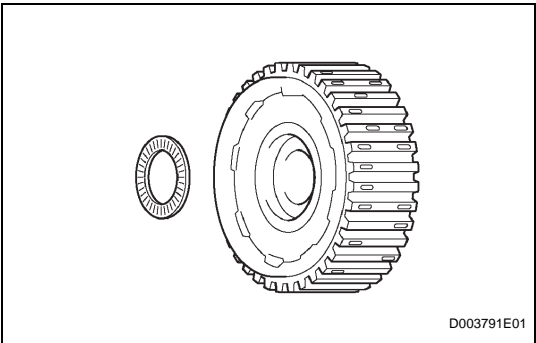
Install the thrust bearing properly so that no colored race will be visible.

AX



15. INSTALL REAR PLANETARY SUN GEAR ASSEMBLY

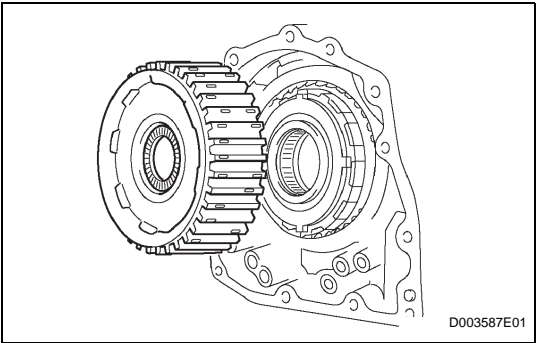
- (a) Coat the No. 1 planetary carrier thrust washer with petroleum jelly, and install it onto the rear planetary sun gear.



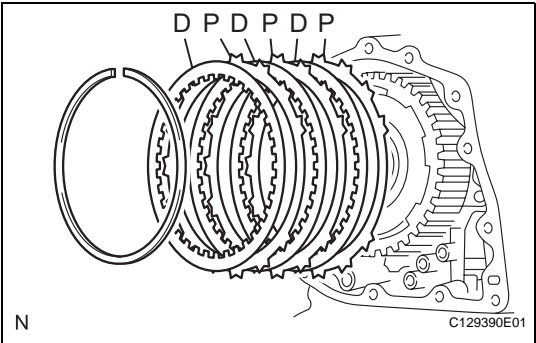
- (b) Coat the bearing with petroleum jelly, and install it onto the rear planetary sun gear.

Standard bearing diameter

Item	Inside	Outside
Bearing	33.8 mm (1.331 in.)	48.2 mm (1.898 in.)



- (c) Install the rear planetary sun gear to the rear planetary gear.



16. INSTALL 2ND BRAKE CLUTCH DISC

- (a) Install the 3 discs and 3 plates to the transaxle.

Install in order:

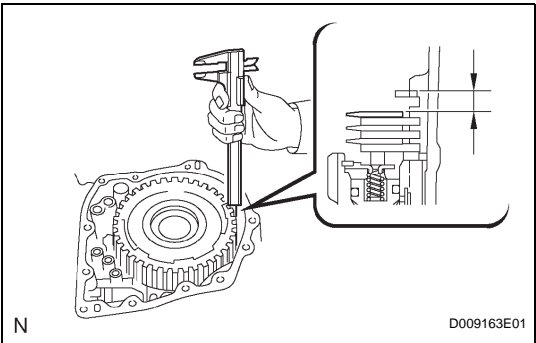
P - D - P - D - P - D

HINT:

P = Plate

D = Disc

- (b) Temporarily install the snap ring.



- (c) Using a vernier caliper, measure the distance between the disc surface and snap ring surface.
- (d) Select an appropriate flange so that the piston stroke will meet the specified value.

Standard pack clearance:

0.62 to 0.91 mm (0.0244 to 0.0358 in.)

HINT:

Piston stroke = Clearance - Flange thickness - Snap ring thickness 1.6 mm (0.063 in.)

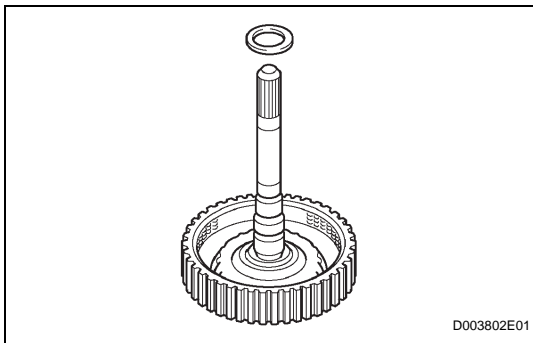
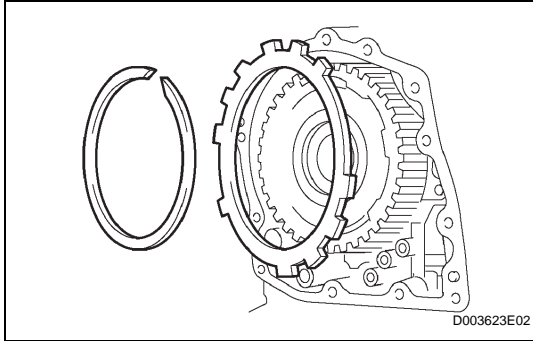
Standard flange thickness

Mark	Thickness	Mark	Thickness
1	3.0 mm (0.118 in.)	5	3.4 mm (0.134 in.)
2	3.1 mm (0.122 in.)	6	3.5 mm (0.138 in.)
3	3.2 mm (0.126 in.)	7	3.6 mm (0.142 in.)
4	3.3 mm (0.130 in.)	8	-

- (e) Temporarily remove the snap ring, attach the selected flange and restore the snap ring.

NOTICE:

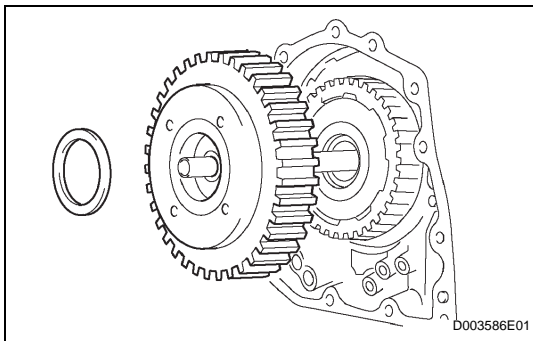
Secure the snap ring so that its gap is visible through the groove of the transaxle case.

**17. INSTALL DIRECT CLUTCH**

- (a) Install the bearing race to the direct clutch.

Standard bearing diameter

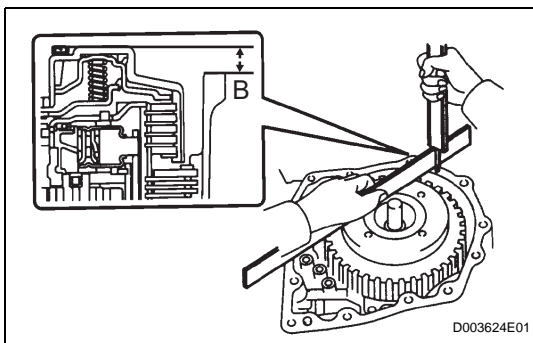
Item	Inside	Outside
Bearing race	30.3 mm (1.193 in.)	46.0 mm (1.811 in.)



- (b) Install the direct clutch and thrust needle roller bearing to the rear planetary sun gear.

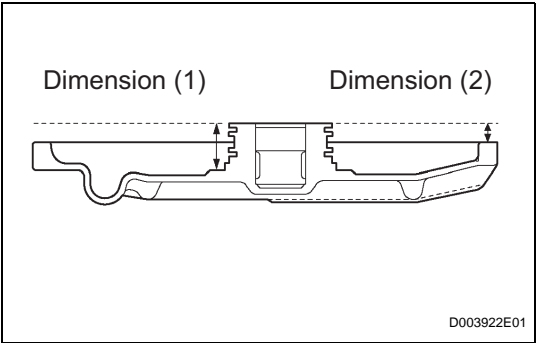
NOTICE:

The disc in the direct clutch should completely align with the hub attached outside the rear planetary sun gear. Otherwise, the rear cover cannot be installed.



- (c) Clean the connector part of the transaxle case and rear cover.
- (d) As shown in the illustration, place a straightedge on the direct clutch drum and measure the distance between the transaxle case and the straightedge using a vernier caliper (Dimension B).

AX



- (e) Measure the 2 places of the rear cover as shown in the illustration and calculate a dimension C using the following formula.

HINT:

Dimension C = Dimension (1) - Dimension (2)

- (f) Calculate the end play value using the following formula. Select a thrust bearing which satisfies the end play value and install it.

End play:

0.198 to 0.936 mm (0.00800 to 0.03685 in.)

NOTICE:

Make sure that the colored race side is facing the direct clutch assembly.

HINT:

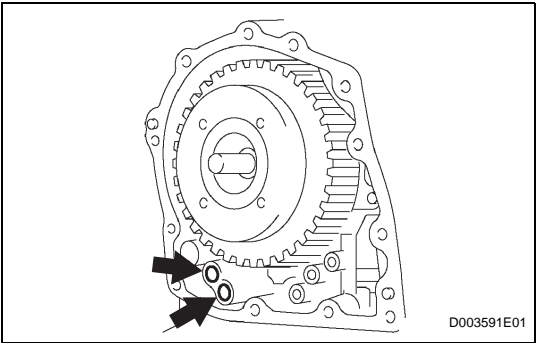
End play = Dimension C - Dimension B

Standard bearing thickness and diameter

Thickness	Inside	Outside
3.58 mm (0.1409 in.)	53.6 mm (2.110 in.)	69.6 mm (2.740 in.)
3.88 mm (0.1528 in.)	53.6 mm (2.110 in.)	70.18 mm (2.763 in.)

18. INSTALL NO. 1 GOVERNOR APPLY GASKET

- (a) Install 2 new apply gaskets to the transaxle.

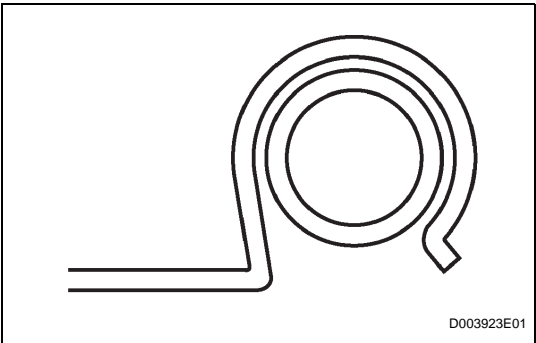


19. INSTALL FRONT CLUTCH APPLY TUBE

- (a) Install the clamp to the front clutch apply tube.

NOTICE:

Make sure to install the clamp to the apply pipe before installing the apply pipe to the transaxle case. This prevents the apply pipe from being deformed or damaged.

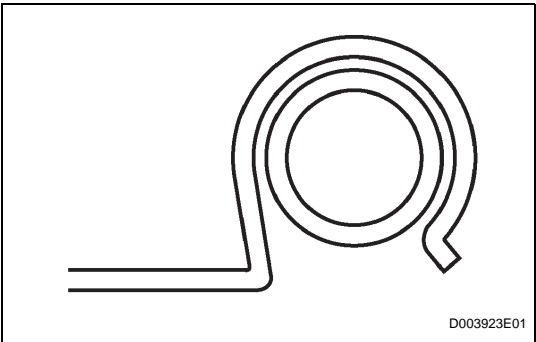


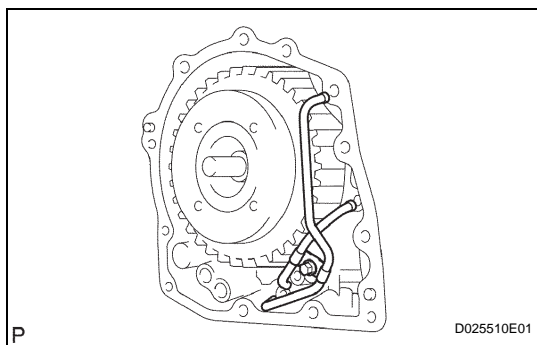
20. INSTALL BRAKE APPLY TUBE

- (a) Install the clamp to the brake apply tube.

NOTICE:

Make sure to install the clamp to the apply pipe before installing the apply pipe to the transaxle case. This prevents the apply pipe from being deformed or damaged.



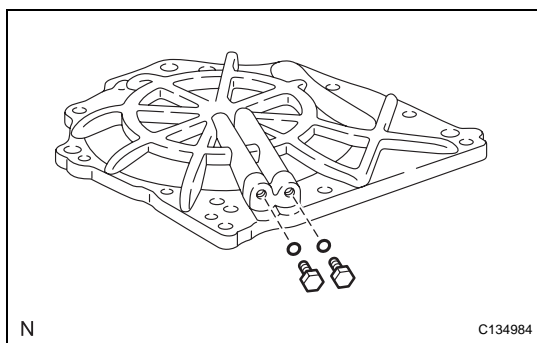


- (b) Install the 2 apply tubes to the transaxle with the bolt.

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

NOTICE:

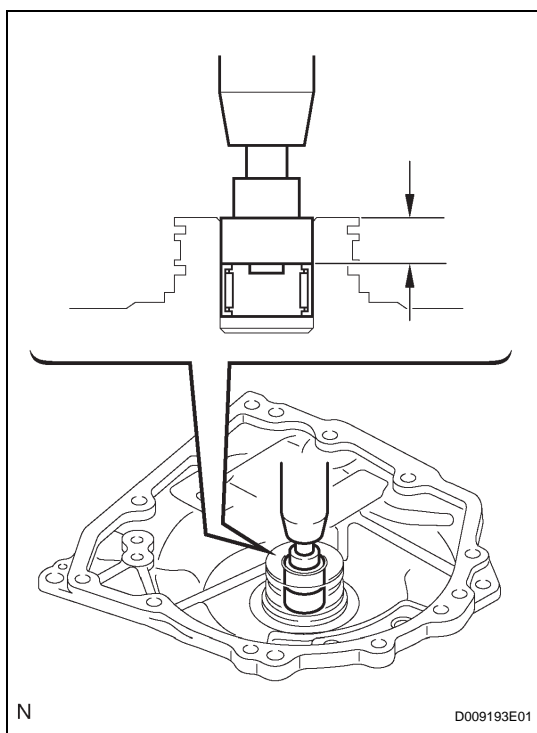
Each pipe should be securely inserted until it reaches the stopper.



21. INSTALL NO. 1 TRANSAXLE CASE PLUG

- (a) Install 2 new O-rings to the 2 plugs.
(b) Install the 2 plugs to the transaxle rear cover.

Torque: 7.4 N*m (75 kgf*cm, 65 in.*lbf)



22. INSTALL TRANSAXLE REAR COVER SUB-ASSEMBLY

- (a) Using SST and a press, press in the bearing.
SST 09950-60010 (09951-00230, 09951-00350)

Standard depth:

12.05 to 12.75 mm (0.4744 to 0.5020 in.)

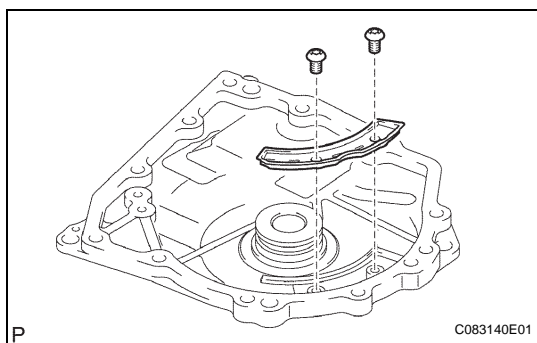
NOTICE:

- Face the inscribed mark side of the bearing race up.
- Repeat the press-fit until the specified value is obtained.

- (b) Apply adhesive to the 2 screws.

Adhesive:

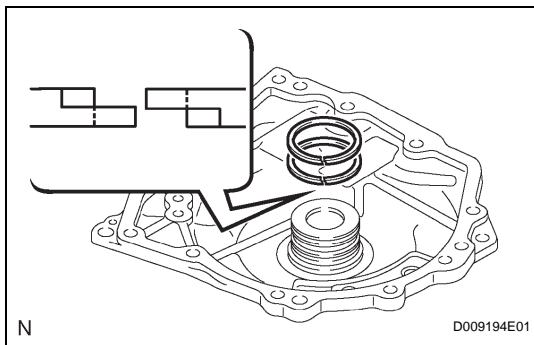
**Toyota Genuine Adhesive 1344,
Three Bond 1344 or Equivalent**



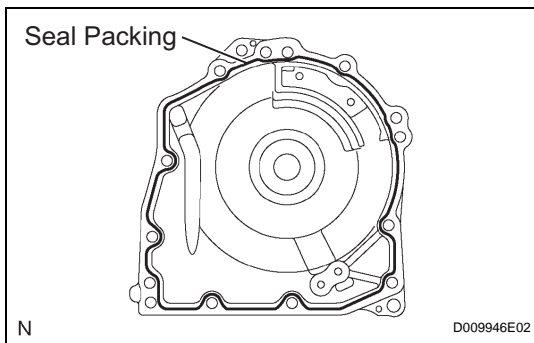
- (c) Using a T30 "torx" socket, install the transaxle rear cover plate with the 2 screws.

Torque: 7.5 N*m (76 kgf*cm, 66 in.*lbf)

AX



- (d) Coat 2 new oil seal rings with ATF, and install them to the transaxle rear cover.

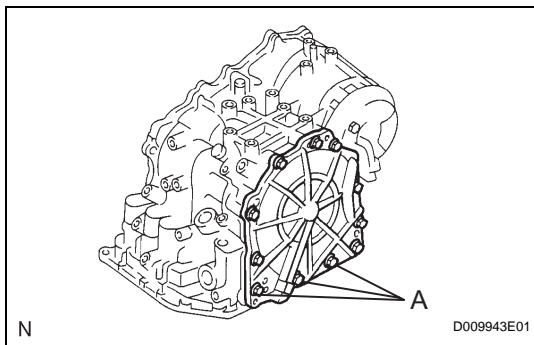


- (e) Remove any packing material and be careful not to get oil on the contacting surfaces of the transaxle rear cover or the transaxle.
- (f) Apply seal packing to the cover.

Seal packing:

**Toyota Genuine Seal Packing 1281,
Three Bond 1281 or Equivalent**

- (g) Coat the needle roller bearing with ATF.



- (h) Apply adhesive to the threads of the bolts labeled A.

Adhesive:

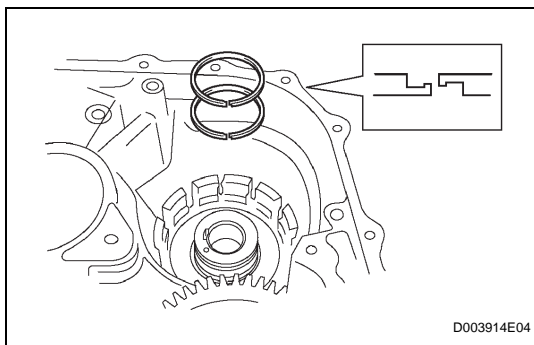
**Toyota Genuine Adhesive 1344,
Three Bond 1344 or Equivalent**

- (i) Install the 11 bolts.

**Torque: 19 N*m (194 kgf*cm, 14 ft.*lbf) for bolt A
25 N*m (255 kgf*cm, 18 ft.*lbf) for other
bolt**

23. INSTALL UNDERDRIVE CLUTCH DRUM OIL SEAL RING

- (a) Install 2 new oil seals to the transaxle.



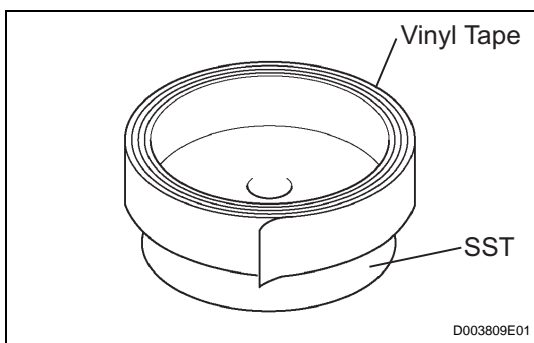
24. INSTALL UNDERDRIVE BRAKE PISTON

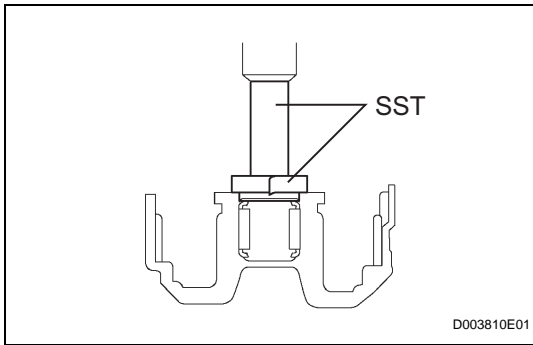
- (a) Wind a vinyl tape around SST at the 4.0 mm (0.157 in.) above from the bottom end until the thickness of the wound tape is about 5.0 mm (0.197 in.).

SST 09550-60010 (09951-00320)

NOTICE:

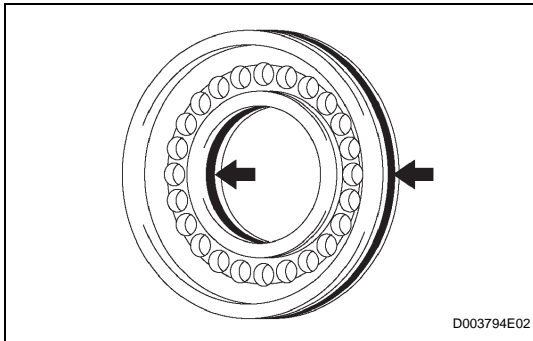
Clean SST to remove deposited oil before winding a vinyl tape.



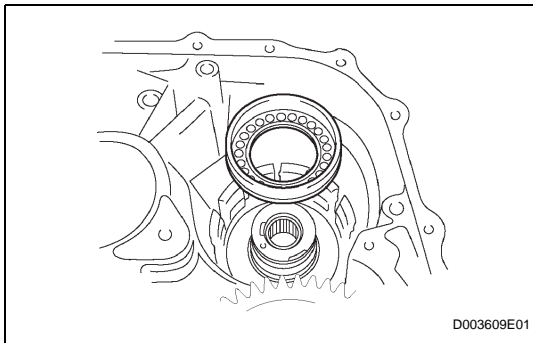


- (b) Using SST and a press, press in the needle-roller bearing to the transaxle until the wound vinyl tape contacts the transaxle case.

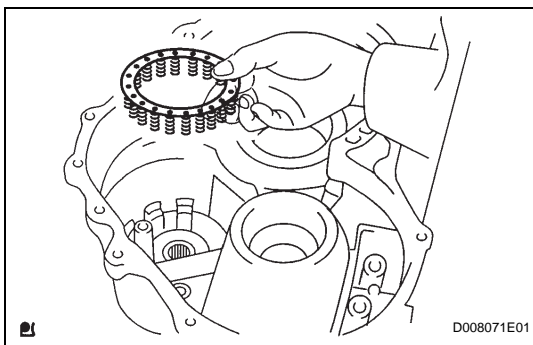
SST 09550-60010 (09951-00320), 09950-70010 (09951-07100), 09387-00020



- (c) Coat 2 new O-rings with ATF, and install them to the underdrive brake piston.

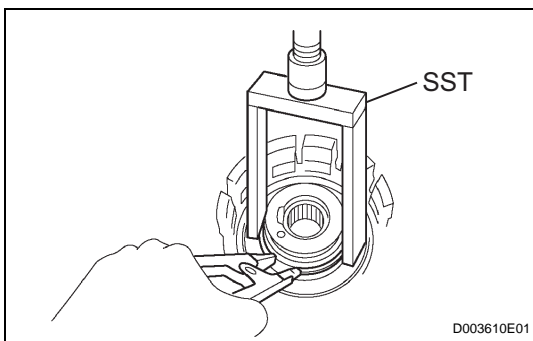


- (d) Install the underdrive brake piston to the transaxle.



25. INSTALL UNDERDRIVE BRAKE RETURN SPRING SUB-ASSEMBLY

- (a) Install the underdrive brake return spring to the underdrive brake piston.



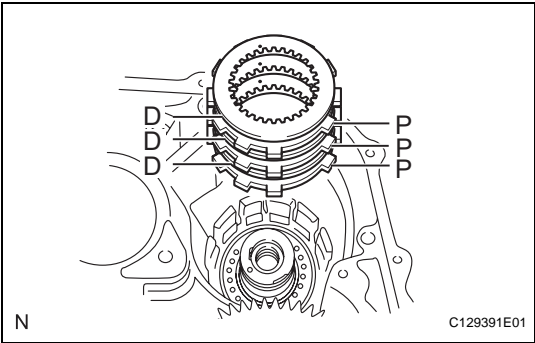
- (b) Using SST, a snap ring expander and press, press the return spring and install the snap ring to the transaxle.

SST 09387-00020

NOTICE:

Do not apply excessive pressure.

AX



26. INSTALL NO. 2 UNDERDRIVE CLUTCH DISC

- (a) Install the 3 discs and 3 plates to the transaxle.

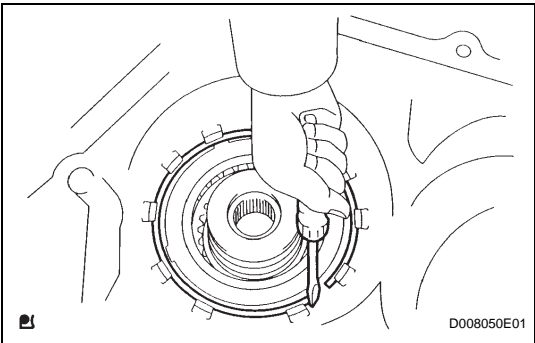
Install in order:

P - D - P - D - P - D

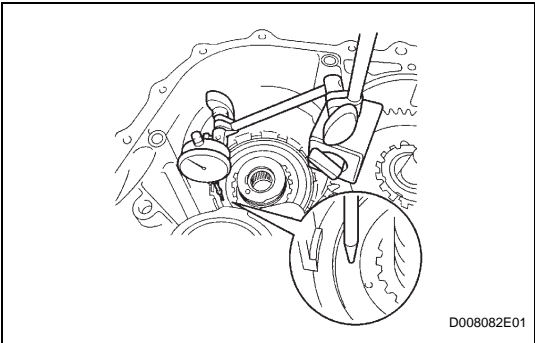
HINT:

D = Disc

P = Plate



- (b) Using a screwdriver, install the snap ring.



- (c) Using a dial indicator, measure the underdrive brake piston stroke while applying and releasing compressed air (392 kPa, 4.0 kgf/cm², 57 psi).

Standard piston stroke:

1.81 to 2.20 mm (0.0713 to 0.0866 in.)

HINT:

Select an appropriate flange from the table below so that it will meet the specified value.

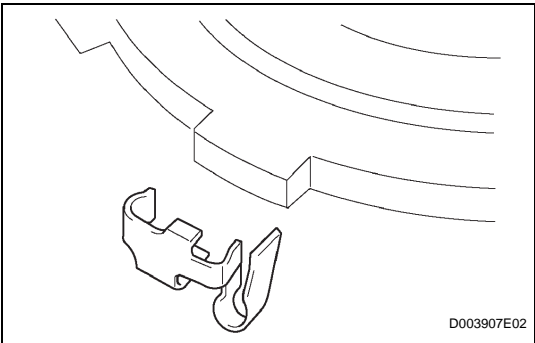
Standard flange thickness

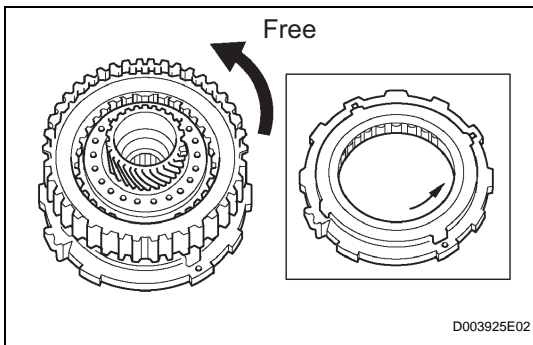
Mark	Thickness	Mark	Thickness
1	3.0 mm (0.118 in.)	3	3.4 mm (0.134 in.)
2	3.2 mm (0.126 in.)	-	-

- (d) Temporarily remove the snap ring and attach the flange. Restore the snap ring.

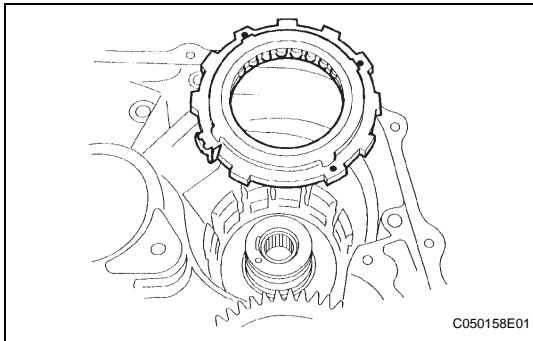
27. INSTALL UNDERDRIVE 1-WAY CLUTCH ASSEMBLY

- (a) Install the outer race retainer to the 1-way clutch.





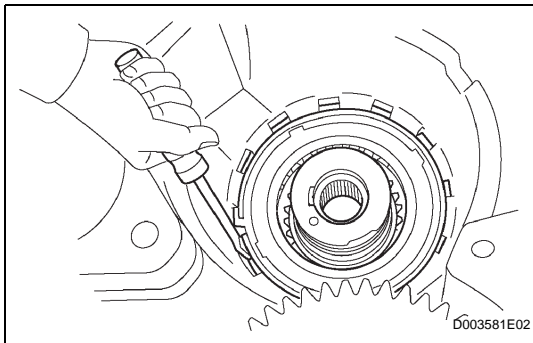
- (b) Install the underdrive clutch assembly to the 1-way clutch. Rotate the underdrive clutch to check the rotating direction for the lock or free operation.



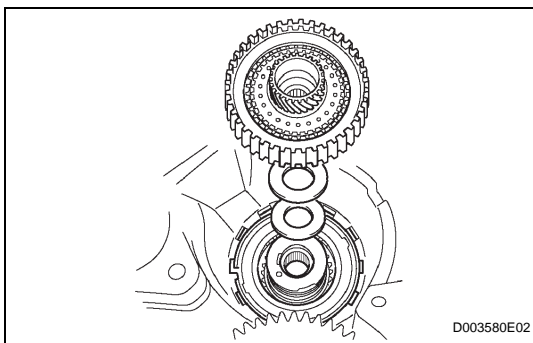
- (c) Install the 1-way clutch to the transaxle.

NOTICE:

Make sure that the mark on the 1-way clutch outer race is visible.



- (d) Using a screwdriver, install the snap ring to the transaxle.



28. INSTALL UNDERDRIVE CLUTCH

- (a) Coat the bearing and bearing race with petroleum jelly, and install them onto the underdrive clutch.

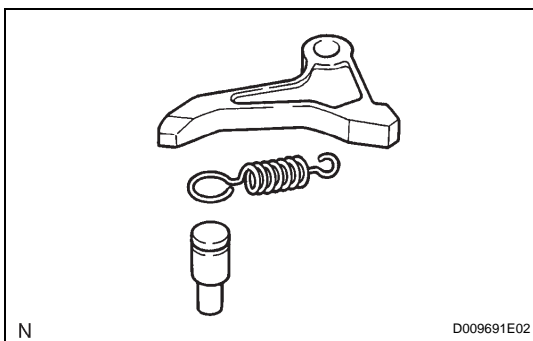
Standard race diameter

Item	Inside	Outside
Bearing	37.73 mm (1.4854 in.)	58.0 mm (2.283 in.)
Race	29.9 mm (1.177 in.)	55.5 mm (2.185 in.)

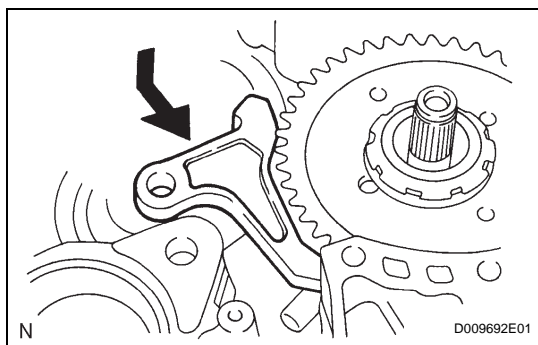
- (b) Install the underdrive clutch assembly to the transaxle.

29. INSTALL UNDERDRIVE PLANETARY GEAR ASSEMBLY

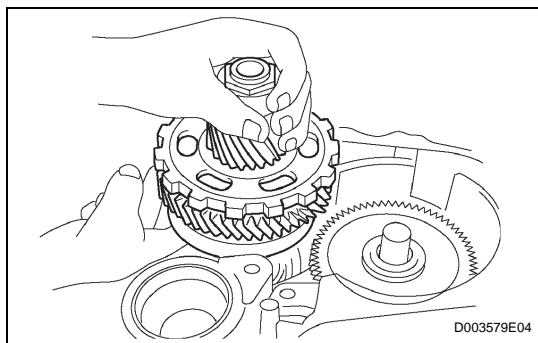
- (a) Install the parking lock pawl pin and torsion spring to the parking lock pawl.



AX



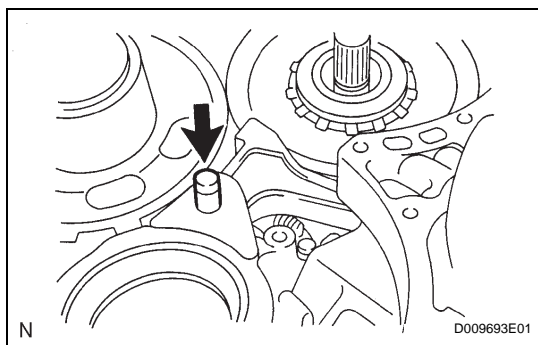
- (b) Temporarily install the parking lock pawl, shaft and spring to the transaxle case as shown in the illustration.



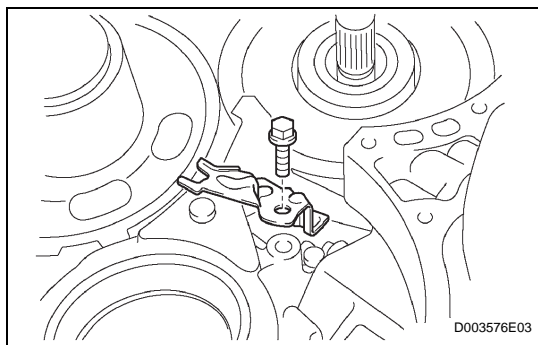
- (c) Install the underdrive planetary gear assembly to the transaxle.

NOTICE:

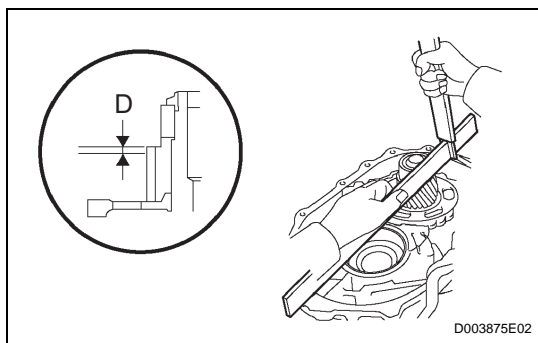
Engage all the discs of the underdrive clutch and hub splines of the underdrive planetary gear assembly firmly and assemble them securely.



- (d) Install the parking lock pawl shaft.



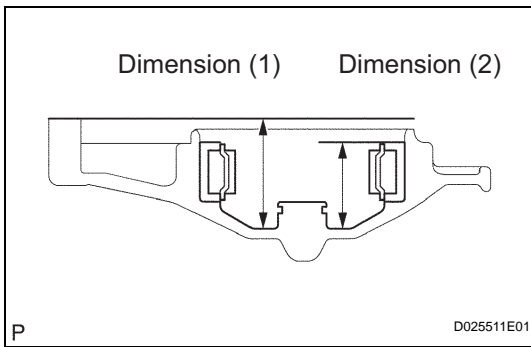
- (e) Install the pawl shaft clamp with the bolt.
Torque: 9.8 N*m (100 kgf*cm, 87 in.*lbf)



- (f) Using a straightedge and vernier caliper as shown in the illustration, measure the gap between the top of the differential drive pinion in the underdrive planetary gear and contact surface of the transaxle and housing (Dimension D).

NOTICE:

Note down the dimension D as it is necessary for the following process.



- (g) As shown in the illustration, measure the 2 places of the transaxle housing. Calculate the dimension E using the formula.

NOTICE:

Note down the dimension E as it is necessary for the following process.

HINT:

Dimension E = Dimension (1) - Dimension (2)

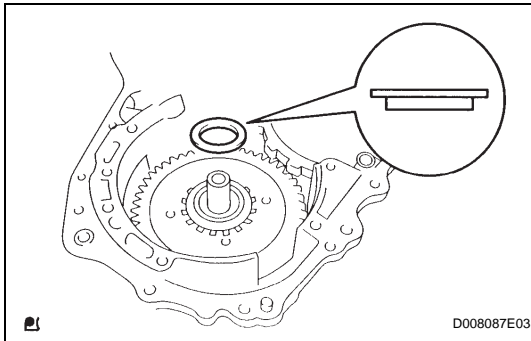
30. INSPECT MULTIPLE DISC CLUTCH CLUTCH HUB (See page [AX-187](#))

31. INSTALL MULTIPLE DISC CLUTCH CLUTCH HUB

- (a) Install the bearing race to the transaxle while checking its direction.

Standard bearing diameter

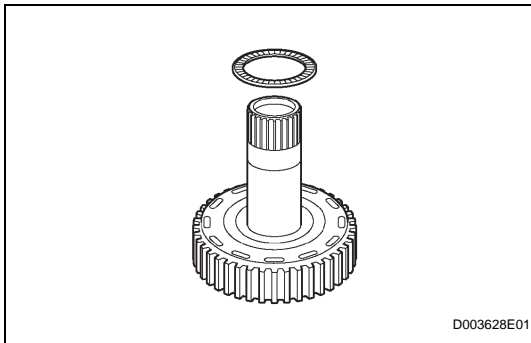
Item	Inside	Outside
Bearing race	34.5 mm (1.358 in.)	48.5 mm (1.909 in.)



- (b) Coat the thrust needle roller bearing and race with petroleum jelly, and install them onto the multiple disc clutch hub.

Standard thrust bearing and race diameter

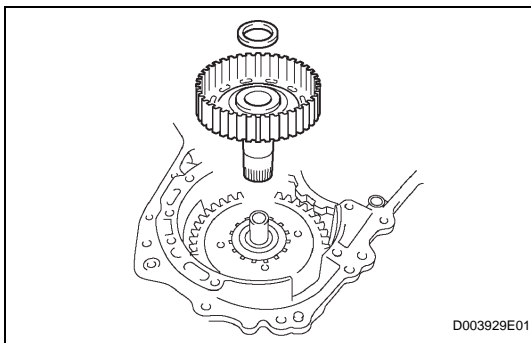
Item	Inside	Outside
Bearing	36.3 mm (1.429 in.)	52.25 mm (2.055 in.)



- (c) Install the input shaft thrust bearing to the multiple clutch hub.

Standard bearing diameter

Item	Inside	Outside
Bearing	23.5 mm (0.925 in.)	44.0 mm (1.732 in.)



- (d) Install the forward clutch hub to the transaxle.

32. INSTALL FORWARD CLUTCH ASSEMBLY

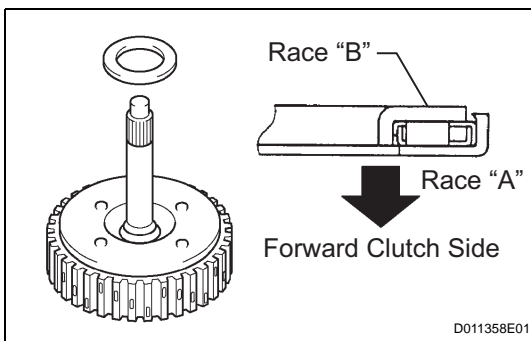
- (a) Install the input shaft thrust bearing to the forward clutch.

Standard bearing diameter

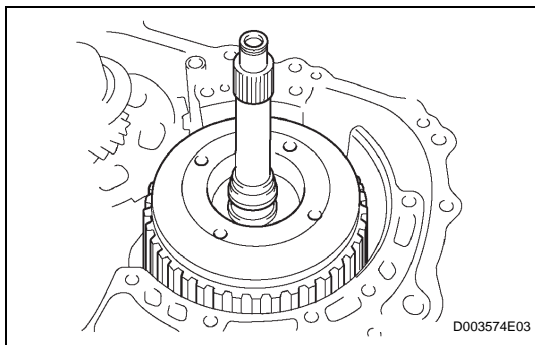
Item	Inside	Outside
Bearing	33.85 mm (1.3327 in.)	52.2 mm (2.055 in.)

NOTICE:

Install the thrust bearing properly so that the race "B" will be visible.



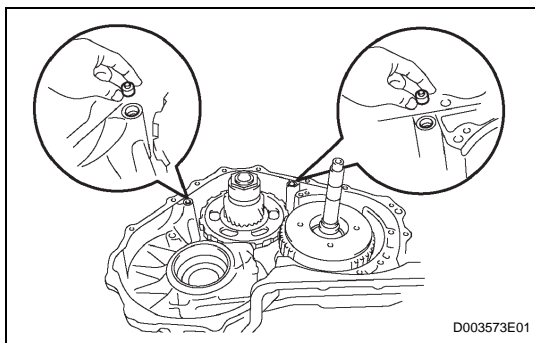
AX



- (b) Install the forward clutch to the multiple clutch hub.

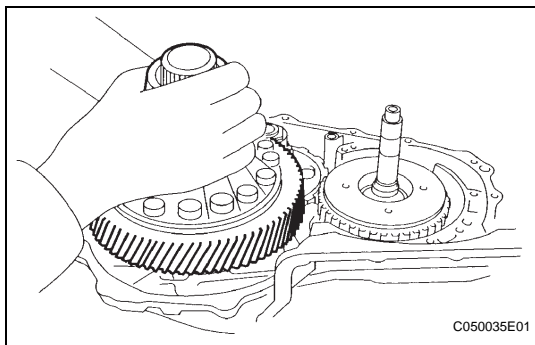
NOTICE:

Align the splines of all discs in the forward clutch with those of multiple clutch hub to assemble them securely.



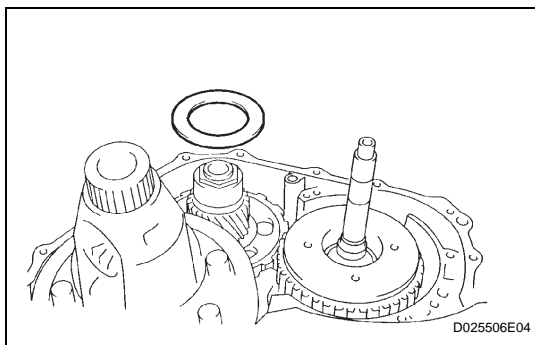
33. INSTALL OVERDRIVE BRAKE GASKET

- (a) Install 2 new overdrive brake gaskets to the transaxle.



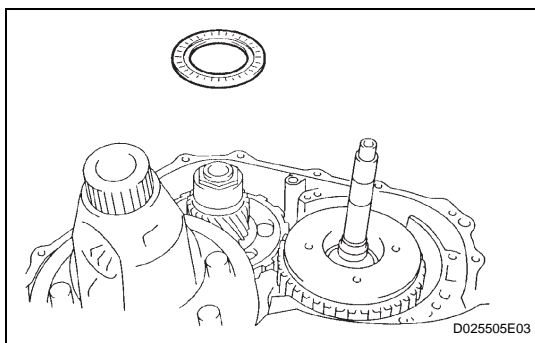
34. INSTALL FRONT DIFFERENTIAL ASSEMBLY

- (a) Install the differential assembly to the transaxle.



35. INSTALL NO. 2 THRUST BEARING UNDERDRIVE RACE

- (a) Install the thrust bearing race to the underdrive planetary gear.



36. INSTALL THRUST NEEDLE ROLLER BEARING

- (a) Calculate the end play value using the following formula and value of Dimensions D and E that were measured when installing the cylindrical roller bearing and underdrive planetary gear. Select an appropriate underdrive planetary gear thrust bearing race No. 2 which satisfies the specified end play value, and install it.

Standard end play:

0.498 to 0.993 mm (0.0194 to 0.0390 in.)

HINT:

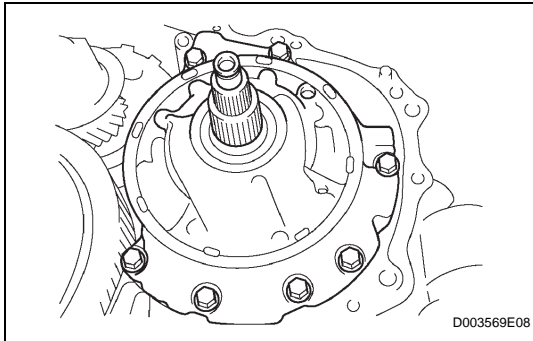
End play = Dimension E - Dimension D - thrust bearing thickness 3.28 mm (0.1291 in.) - underdrive thrust bearing race thickness.

Standard race thickness

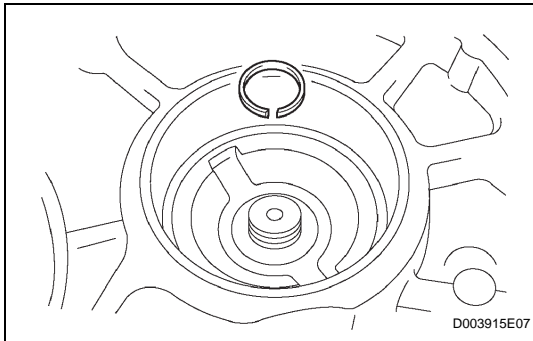
E - D	Thickness
Less than 7.34 mm (0.2890 in.)	3.5 mm (0.138 in.)
7.34 mm (0.2890 in.)	3.8 mm (0.150 in.)

Standard bearing and bearing race diameter

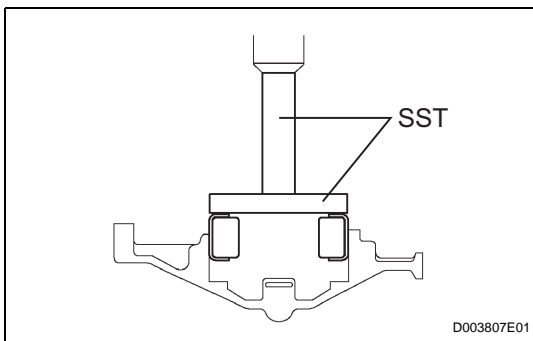
Item	Inside	Outside
Bearing	53.0 mm (2.087 in.)	78.2 mm (3.079 in.)
Bearing race	52.1 mm (2.051 in.)	75.5 mm (2.972 in.)

AX**37. INSTALL OIL PUMP ASSEMBLY**

- (a) Install the oil pump to the transaxle with the 7 bolts.
Torque: 22 N*m (226 kgf*cm, 16 ft.*lbf)

**38. INSTALL UNDERDRIVE OUTPUT SHAFT OIL SEAL RING**

- (a) Install a new oil seal ring to the transaxle housing.

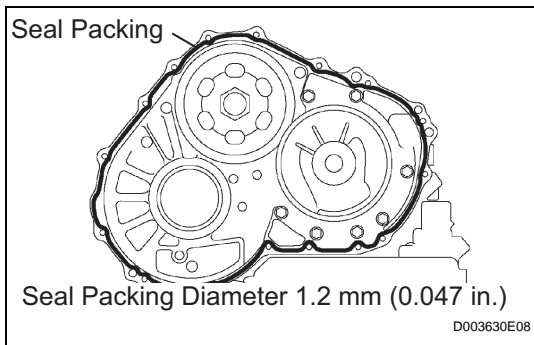
**39. INSTALL UNDERDRIVE CYLINDRICAL ROLLER BEARING**

- (a) Using SST and a press, press in the underdrive cylindrical roller bearing.
SST 09950-60020, 09950-70010 (09951-07100, 09951-07100)

NOTICE:

Do not apply excessive pressure to it.

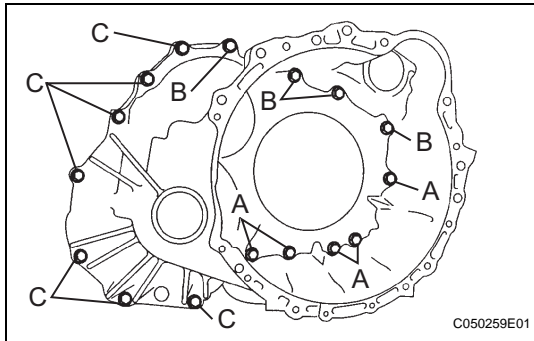
AX

**40. INSTALL TRANSAXLE HOUSING**

- (a) Remove any packing material and be careful not to get oil on the contacting surfaces of the transaxle case or transaxle housing.
- (b) Apply seal packing to the transaxle case.

Seal packing:

**Toyota Genuine Seal Packing 1281,
Three Bond 1281 or Equivalent**



- (c) Install the transaxle housing and to the transaxle with the 16 bolts.

**Torque: 22 N*m (224 kgf*cm, 16 ft.*lbf) for bolt A
29 N*m (296 kgf*cm, 21 ft.*lbf) for bolt B
and C**

HINT:

Each bolt length is indicated below.

Bolt length:

50 mm (1.969 in.) for bolt A

50 mm (1.969 in.) for bolt B

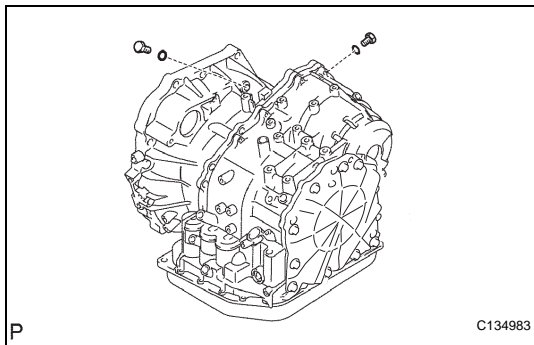
42 mm (1.654 in.) for bolt C

NOTICE:

Because the bolt A is a seal bolt, apply the seal packing to new bolts and tighten them within 10 minutes after application.

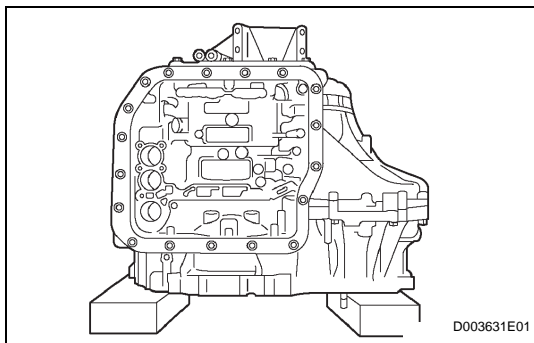
Seal packing:

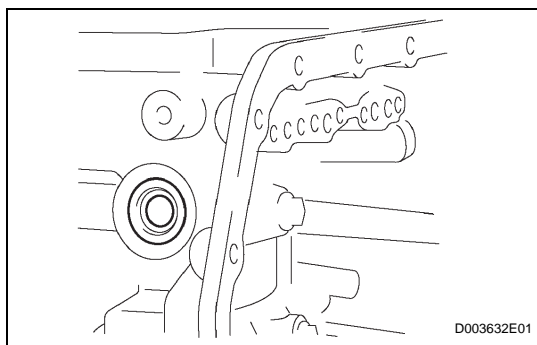
**Toyota Genuine Seal Packing 1281,
Three Bond 1281 or Equivalent**

**41. INSTALL NO. 1 TRANSAXLE CASE PLUG**

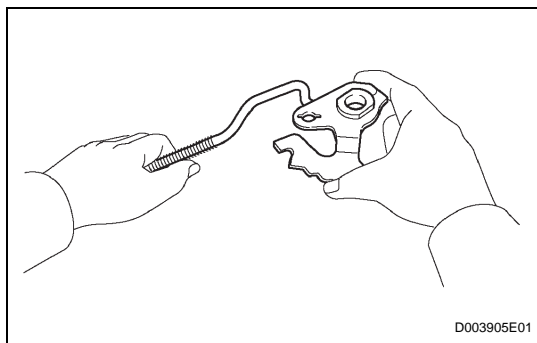
- (a) Install 2 new O-rings to the 2 plugs.
- (b) Install the 2 plugs to the transaxle housing.

Torque: 7.4 N*m (75 kgf*cm, 65 in.*lbf)

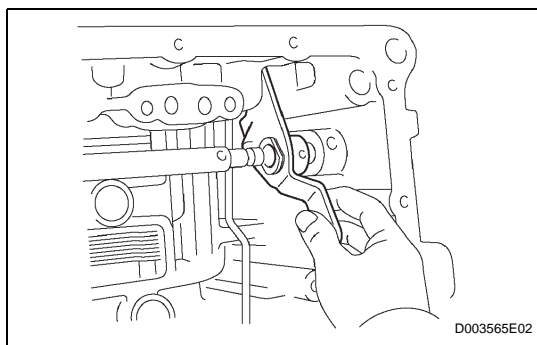
42. INSPECT INPUT SHAFT END PLAY (See page [AX-185](#))**43. FIX AUTOMATIC TRANSAXLE ASSEMBLY**

**44. INSTALL MANUAL VALVE LEVER SHAFT OIL SEAL**

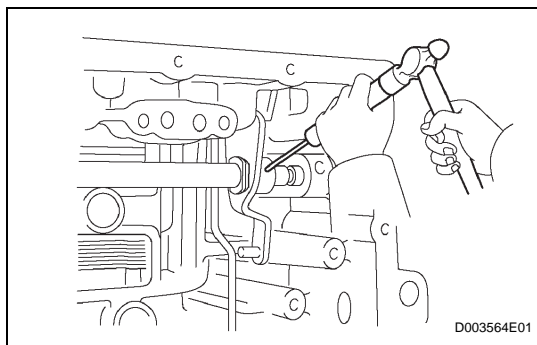
- (a) Coat a new oil seal with ATF, and install it to the transaxle.
- (b) Install the oil seal to the transaxle.

**45. INSTALL PARKING LOCK ROD SUB-ASSEMBLY**

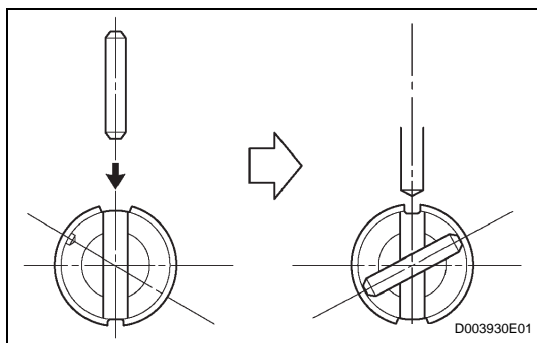
- (a) Install the parking lock rod to the manual valve lever.

**46. INSTALL MANUAL VALVE LEVER SUB-ASSEMBLY**

- (a) Install a new spacer and manual valve lever shaft to the transaxle.

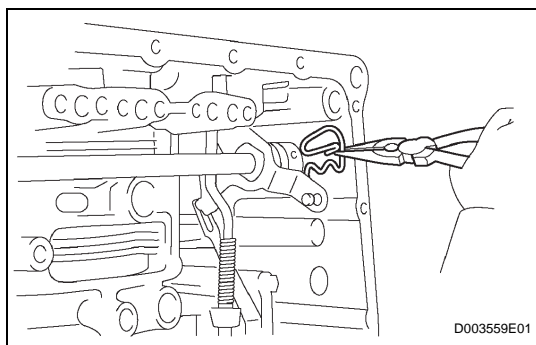


- (b) Using a pin punch and hammer, tap in a new pin.



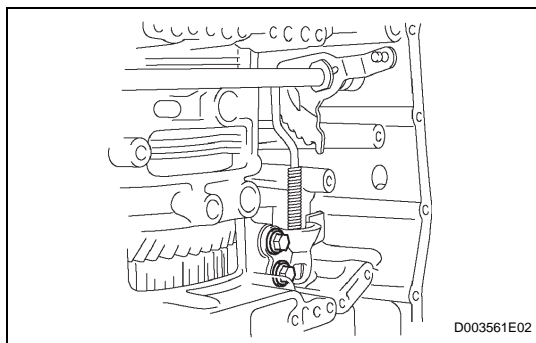
- (c) Turn the spacer and lever shaft to align the small hole for locating the staking position in the spacer with the staking position mark on the lever shaft.
- (d) Using a pin punch, stake the spacer through the small hole.
- (e) Check that the spacer does not turn.

AX



47. INSTALL MANUAL VALVE LEVER SHAFT RETAINER SPRING

- (a) Using needle-nose pliers, install the retainer spring.



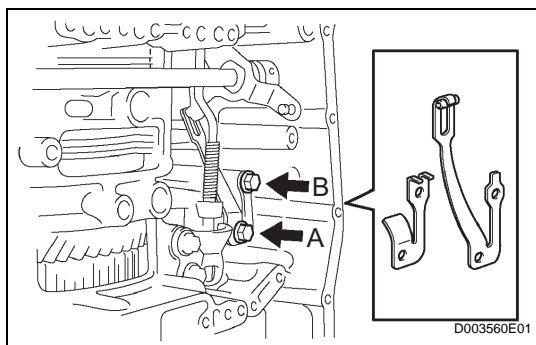
48. INSTALL PARKING LOCK PAWL BRACKET

- (a) Install the parking lock pawl bracket with the 2 bolts.

Torque: 20 N*m (204 kgf*cm, 15 ft.*lbf)

Bolt length:

25 mm (0.984 in.)



49. INSTALL MANUAL DETENT SPRING SUB-ASSEMBLY

- (a) Install the manual detent spring with the 2 bolts.

NOTICE:

Make sure to install the manual detent spring and cover in this order.

Torque: 20 N*m (204 kgf*cm, 15 ft.*lbf) for bolt A

12 N*m (122 kgf*cm, 9 ft.*lbf) for bolt B

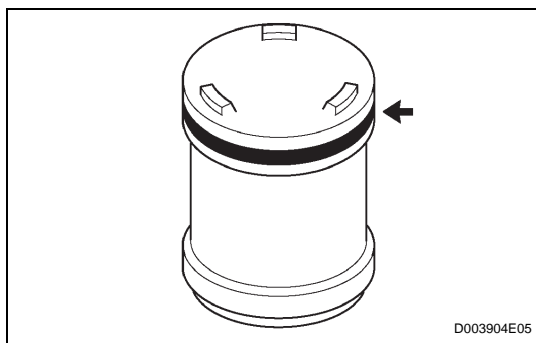
HINT:

Each bolt length is indicated below.

Bolt length:

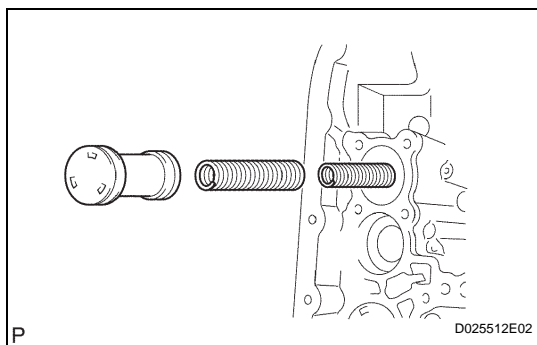
27 mm (1.063 in.) for bolt A

16 mm (0.630 in.) for bolt B



50. INSTALL B-3 ACCUMULATOR PISTON

- (a) Coat a new O-ring with ATF, and install it to the B-3 accumulator piston.



- (b) Coat the accumulator B-3 piston and spring with ATF, and install them to the transaxle.

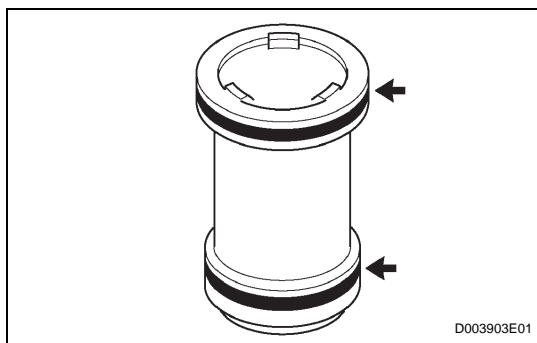
Standard accumulator spring

Spring	Free length Outer diameter	Color
B-3 Inner	60.24 mm (2.3716 in.) 15.9 mm (0.626)	Yellowish green
B-3 Outer	74.61 mm (2.9374 in.) 21.7 mm (0.854 in.)	Blue

AX

51. INSTALL C-1 ACCUMULATOR PISTON

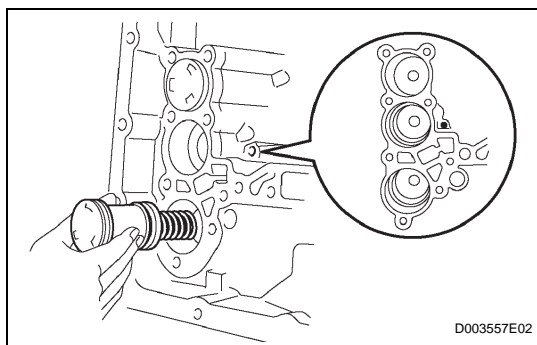
- (a) Coat 2 new O-rings with ATF, and install them to the C-1 accumulator piston.



- (b) Coat the accumulator C-1 piston with ATF, and install it to the transaxle.

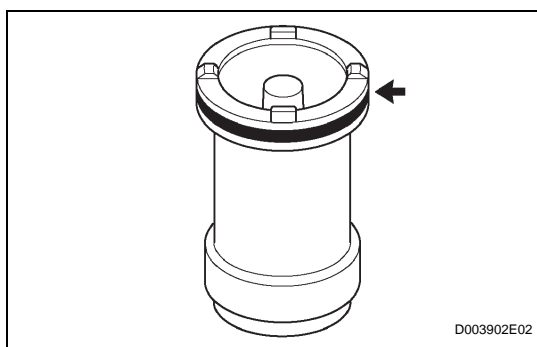
Standard accumulator spring

Spring	Free length Outer diameter	Color
C-1	81.53 mm (3.2098 in.) 18.5 mm (0.728 in.)	Pink

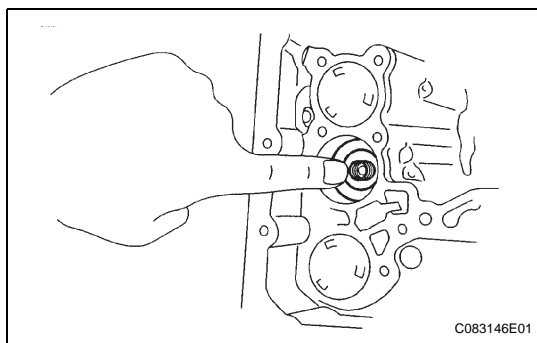


52. INSTALL C-3 ACCUMULATOR PISTON

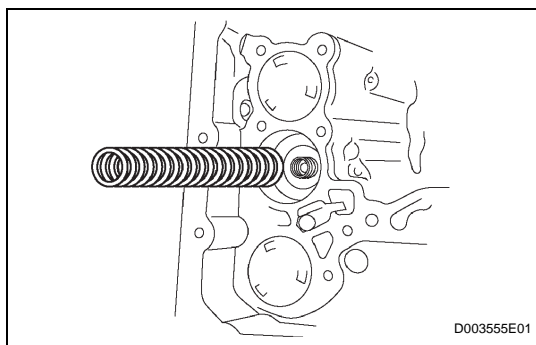
- (a) Coat a new O-ring with ATF, and install it to the C-3 accumulator piston.



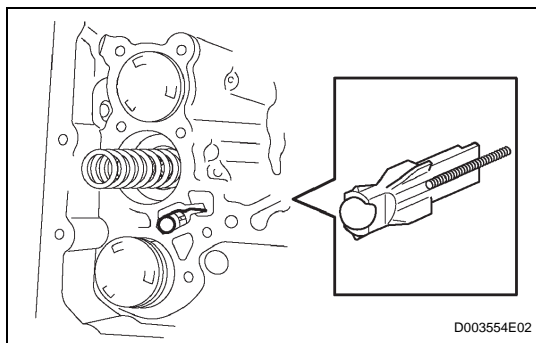
- (b) Coat the C-3 accumulator piston with ATF, and install it to the transaxle.



AX

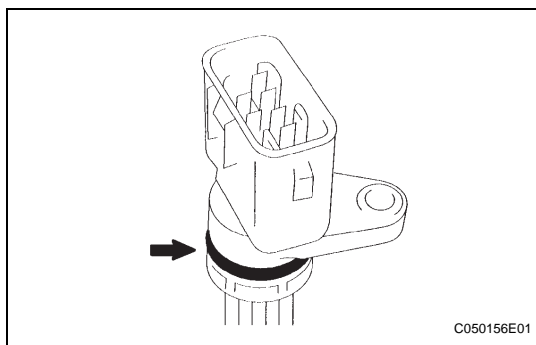


- (c) Install the compression spring from the C-3 accumulator piston.



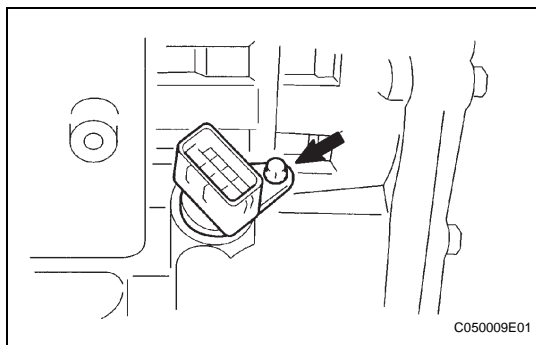
53. INSTALL CHECK BALL BODY

- (a) Install the check ball body and spring.

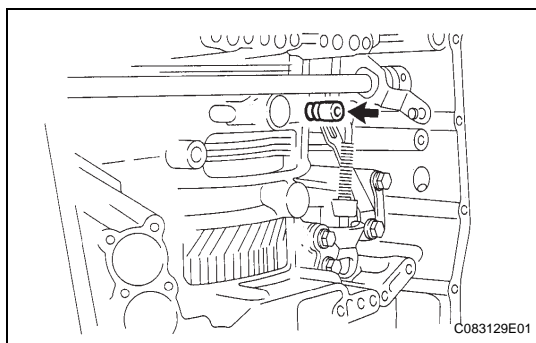


54. INSTALL TRANSMISSION WIRE

- (a) Coat a new O-ring with ATF, and install it to the transaxle solenoid wire.

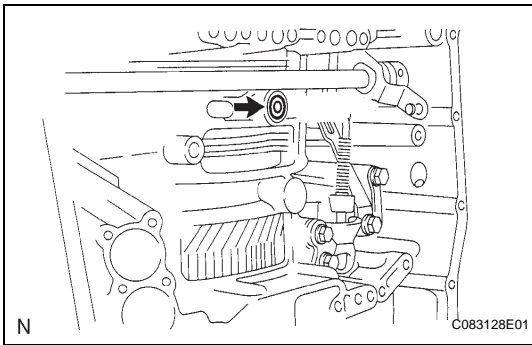


- (b) Install the solenoid wire retaining bolt.
Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

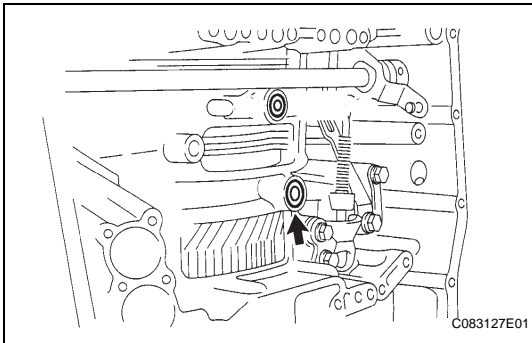


55. INSTALL BRAKE DRUM GASKET

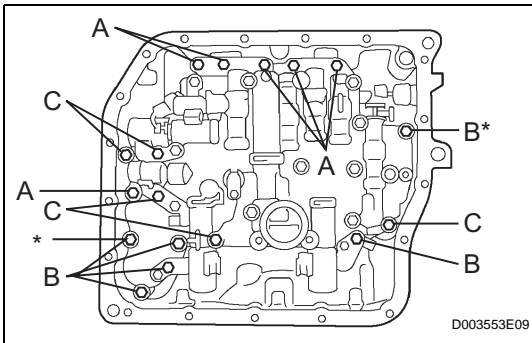
- (a) Coat a new brake drum gasket with ATF, and install it to the transaxle.

**56. INSTALL TRANSAXLE CASE 2ND BRAKE GASKET**

- (a) Coat a new transaxle case 2nd brake gasket with ATF, and install it to the transaxle.

**57. INSTALL NO. 1 GOVERNOR APPLY GASKET**

- (a) Coat a new governor apply gasket No. 1 with ATF, and install it to the transaxle.

**58. INSTALL TRANSMISSION VALVE BODY ASSEMBLY**

- (a) Make sure that the manual valve lever position, install the valve body with the 17 bolts to the transaxle.

Torque: 11 N*m (112 kgf*cm, 8 ft.*lbf)

HINT:

Each bolt length is indicated below.

Bolt length:

25 mm (0.984 in.) for bolt A

41 mm (1.614 in.) for bolt B

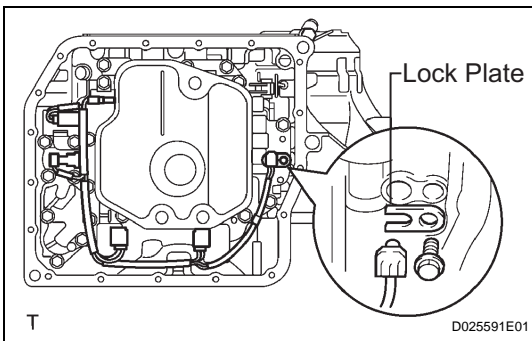
45 mm (1.771 in.) for bolt C

NOTICE:

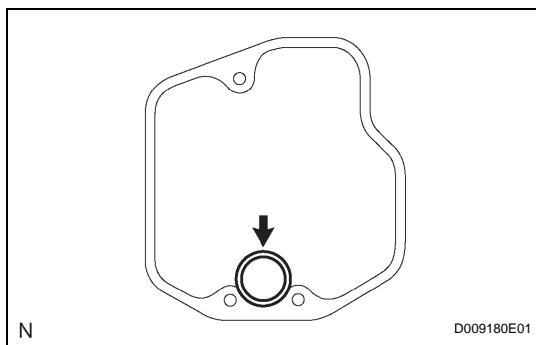
- Push the valve body against the accumulator piston spring and the check ball body to install it.
- When installing the valve body to the transaxle case, do not hold the solenoids.
- Tighten the bolts marked by * in the illustration first temporarily because they are positioning bolts.

- (b) Connect the 5 solenoid connectors.
(c) Install the ATF temperature sensor, clamp and bolt.

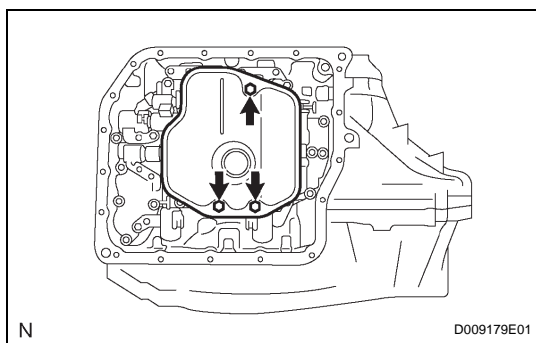
Torque: 6.6 N*m (67 kgf*cm, 58 in.*lbf)



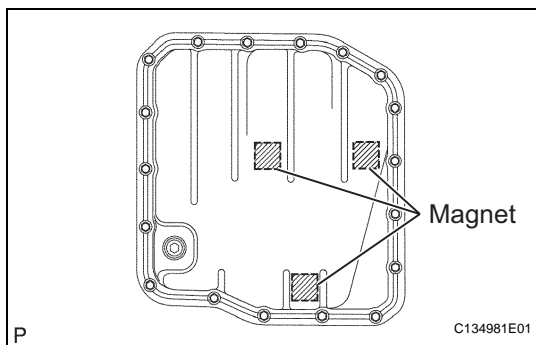
AX

**59. INSTALL VALVE BODY OIL STRAINER ASSEMBLY**

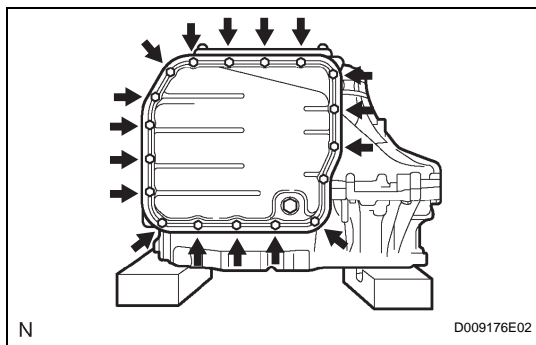
- (a) Coat a new O-ring with ATF, and install it to the oil strainer.



- (b) Install the oil strainer and 3 bolts to the valve body.
Torque: 11 N*m (112 kgf*cm, 8 ft.*lbf)

**60. INSTALL AUTOMATIC TRANSAXLE OIL PAN SUB-ASSEMBLY**

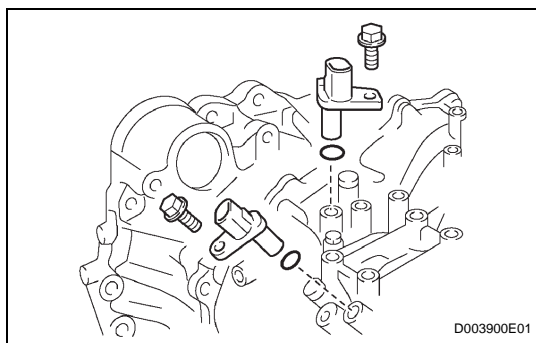
- (a) Install the 3 magnets in the oil pan.
(b) Install a new oil pan gasket to the oil pan.



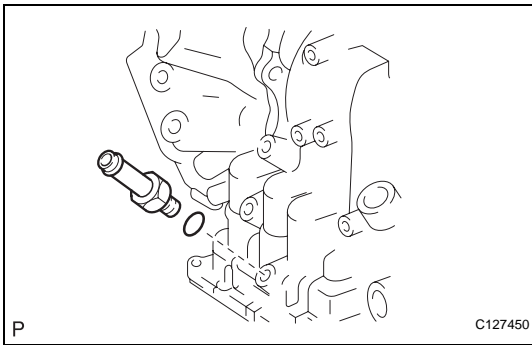
- (c) Install the oil pan to the transaxle with the 18 bolts.
Torque: 7.6 N*m (77 kgf*cm, 67 in.*lbf)

NOTICE:

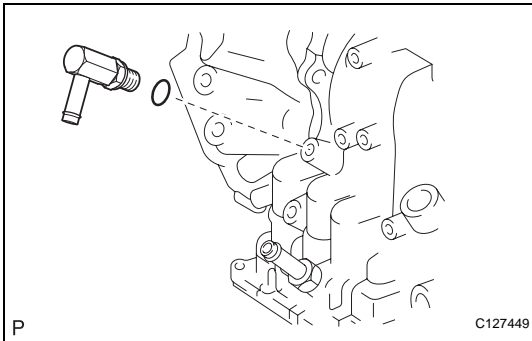
Because the bolts are seal bolts, apply seal packing to new bolts and tighten them within 10 minutes after application.

**61. INSTALL SPEED SENSOR**

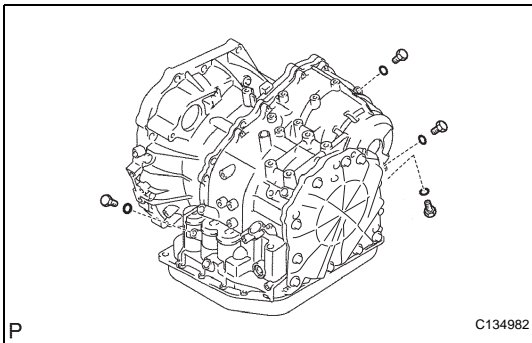
- (a) Coat 2 new O-rings with ATF, and install them to the 2 sensors.
(b) Install the 2 sensors with the 2 bolts to the transaxle.
Torque: 11 N*m (112 kgf*cm, 8 ft.*lbf)

**62. INSTALL OIL COOLER INLET TUBE UNION**

- (a) Coat a new O-ring with ATF, and install it to the union.
- (b) Install the union to the transaxle.
Torque: 27 N*m (276 kgf*cm, 20 ft.*lbf)

**63. INSTALL OIL COOLER OUTLET TUBE UNION**

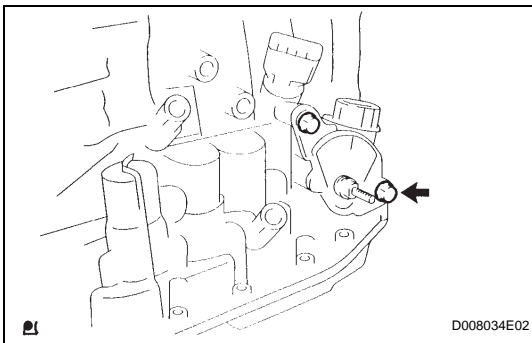
- (a) Coat a new O-ring with ATF, and install it to the union.
- (b) Install the union to the transaxle case.
Torque: 25 N*m (255 kgf*cm, 18 ft.*lbf)

**64. INSTALL NO. 1 TRANSAXLE CASE PLUG**

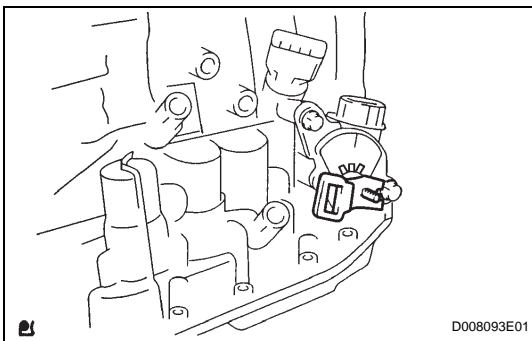
- (a) Coat 4 new O-rings with ATF, and install them to the 4 plugs.
- (b) Install the 4 plugs to the transaxle.
Torque: 7.4 N*m (75 kgf*cm, 65 in.*lbf)

65. INSTALL BREATHER PLUG HOSE

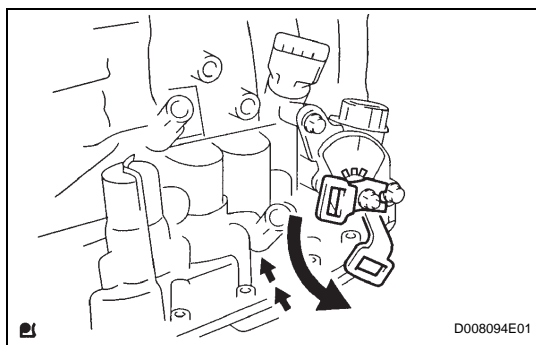
- (a) Install the breather plug hose to the breather plug.

**66. INSTALL PARK/NEUTRAL POSITION SWITCH ASSEMBLY**

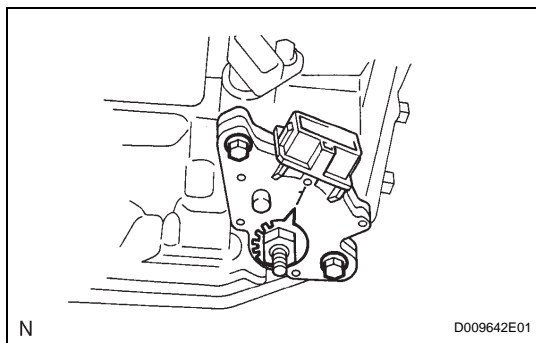
- (a) Install the park/neutral position switch onto the manual valve lever shaft and temporarily install the 2 adjusting bolts.
- (b) Install a new lock plate and the nut.
Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)



- (c) Temporarily install the control shaft lever.

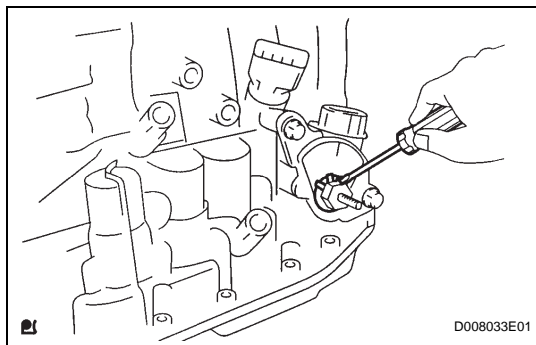


- (d) Turn the lever counterclockwise until it stops, and then turn it clockwise 2 notches.
- (e) Remove the control shaft lever.

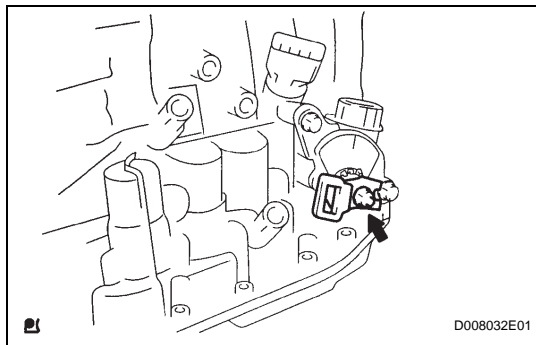


- (f) Align the groove with neutral basic line.
- (g) Tighten the 2 bolts.

Torque: 6.9 N*m (70 kgf*cm, 61 in.*lbf)



- (h) Using a screwdriver, stake the nut with the lock plate.



- (i) Install the control shaft lever, washer and nut.
- Torque: 13 N*m (133 kgf*cm, 10 ft.*lbf)**

67. INSTALL SPEEDOMETER DRIVEN HOLE COVER SUB-ASSEMBLY

- (a) Coat a new O-ring with ATF and install it to the hole cover.
- (b) Install the hole cover to the transaxle with the bolt.